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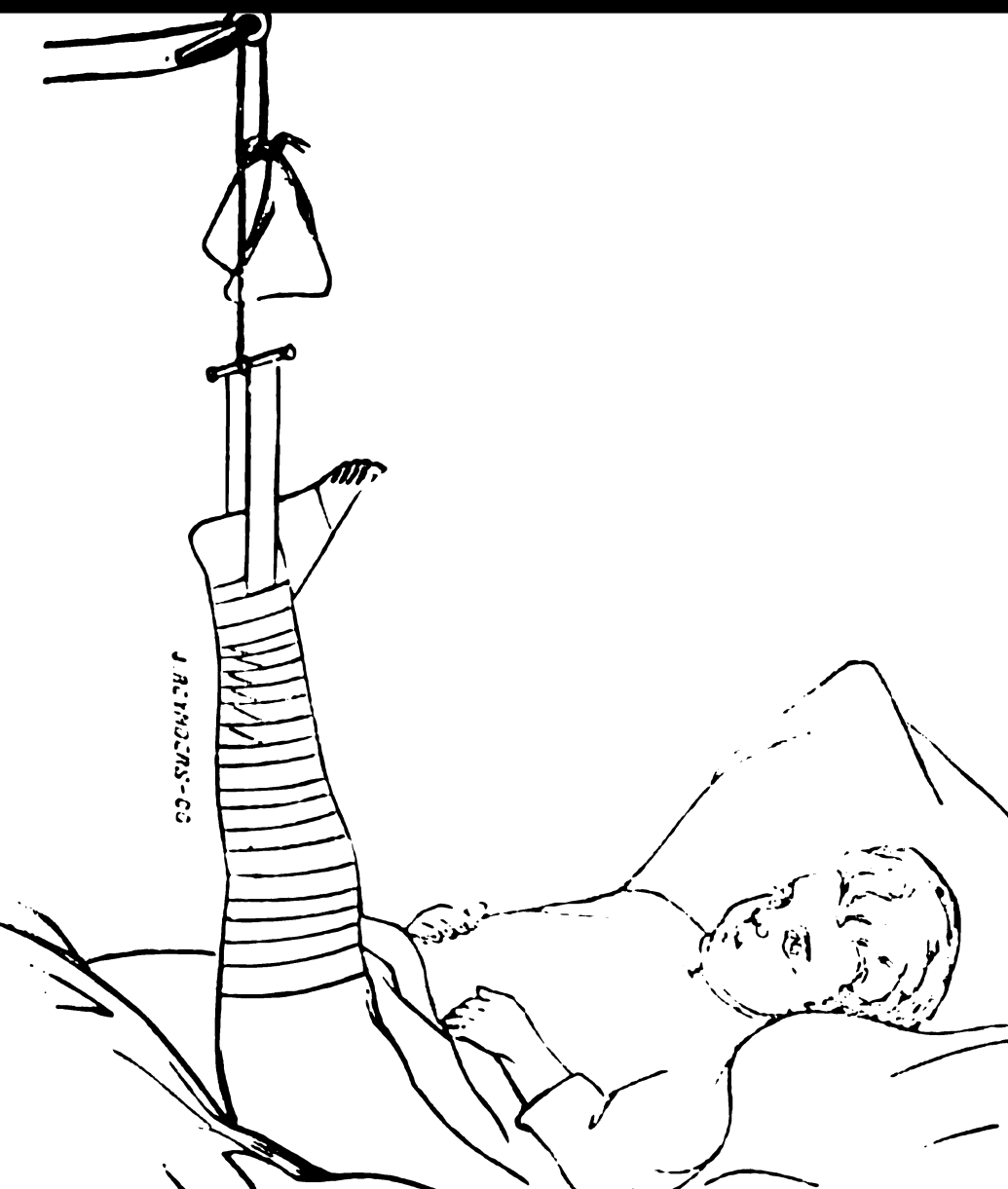
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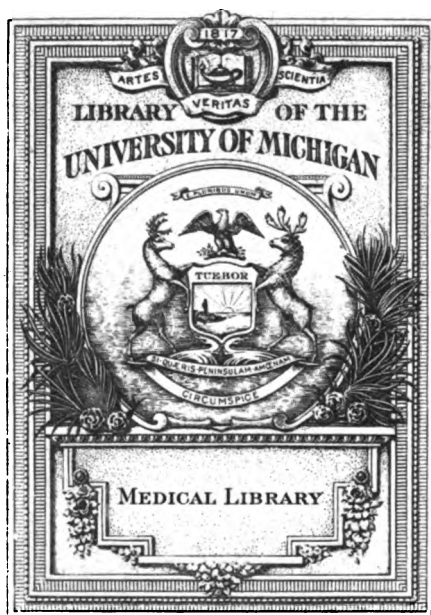
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NORTH CAROLINA MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., Editor.

Number 1. Wilmington, January, 1881. Vol. 7.

ORIGINAL COMMUNICATIONS.

free

(4)

Dr. Jefferson

FREE



Doct. Benjamin Waterhouse

Cambridge

Massachusetts

JEFFERSON AS A VACCINATOR.

By HENRY A. MARTIN, M. D., Boston, Mass.

An eccentric inclination turned the mind of the writer to the study of vaccination, and of everything connected with its history and practice at a very early period of life. That inclination has

never abated and has led to the devotion of an amount of rather thankless labor to the cause of vaccination which, in many other fields of professional labor, would long since have been rewarded by distinction and fortune. It has led, too, to the introduction of ANIMAL VACCINATION in America and through that, to the pleasant consciousness of having conferred, whether ever fully appreciated or not, an incalculable benefit on the American people.

Whatever gratitude he may owe to the people of America whose intelligence and good sense led to universal and almost immediate appreciation and acceptance of *true** animal vaccination, or to the almost innumerable members of his profession everywhere, even in Boston, who have applauded his efforts and adopted his teachings, he owes none whatever to the controlling medical clique of Boston or the Journal which is that clique's most subservient and subsidized organ. For the ten years which have elapsed since, in September, 1870, true animal vaccination was introduced in Boston, that Journal has published no single word to even inform its readers of the remarkable revolution in practice by which this method has become an American institution. So long as it was hoped that its feeble effort might prevent the acceptance of the innovation its weakly issues were sure to display every attainable slur and squib unfavorable to it, no matter how irresponsible, disreputable, obscure, or even anonymous its source.† When it became evident even to

*I say *TRUE animal vaccination*. (the inoculation of a selected young bovine animal, with the virus, of *spontaneously* occurring cow-pox; from this another similar animal, and so on, in endless series, as the source, and *only* source of lymph for human vaccination), to distinguish the method which was introduced into America by myself in September, 1870, from *Retro vaccination*, (Inoculation of animals with humanized virus) which had, before that time been extensively practiced here; and *variolation* of kine, which had been occasionally attempted, once at least, with very disastrous consequences. Both of these might be called animal vaccination, but both are very different things, indeed, from the method I advocate, and, for over seven years, have *exclusively* practiced. I think it worth while to define my position thus elaborately and clearly as there have existed and still exist very erroneous notions on the subject even among those who think themselves sufficiently well-informed to pronounce very decided opinions and criticisms.—H. A. M.

†The time has not arrived to write fully, as some time, in the future, *may* be done, of the infamous manner in which the Journal alluded to, pandered to the malignant, cowardly animosity of one leader of the "*Boston Clique*," the wire puller, in fact, of the whole abomination. That person, and a few like him, pay the annually increasing deficit in that Journal's exchequer, and, of course, it *dare* not refuse the publication of anything for its *patrons*, no matter how infamously unjust or anonymous, so long as the sharp claws of the *Law* were evaded.—H. A. M.



that journal's proprietors and managers, long after it had been evident to every one else, that the triumphant success of animal vaccination was utterly above and beyond all possibility of being marred or even abated by its petty malignity, silence became and has continued the rule. The course pursued towards himself caused the writer no surprise. He knew the *animus* of the "BOSTON CLIQUE" too well ; with its history, however hateful and obscure, he was too familiar to, for a moment, believe that it would be so false to all its traditions as to fairly and impartially criticise, much less applaud a novelty, however striking and important, the author or representative of which was a Boston physician, but not a member of its hereditary "Ring."

It is a singular but quite indubitable fact that, in Boston, not only animal vaccination in 1870, but the Jennerian vaccination in 1800 by Benjamin Waterhouse and variolous inoculation in 1721 by Zabdiel Boylston were first introduced in America. It is a fact as unquestionable, but by no means so singular, to any one who is familiar with the history of the medical profession in Boston and the local influences which now control and always have controlled it, that neither of these events was in any way due to the genial, fostering nurture and patronage of the medical profession of Boston, but simply and solely, in the two latter instances, to the wisdom, perseverance and courage of two of the noblest and bravest men who have yet illustrated the history of American medicine. These qualities carried Boylston and Waterhouse triumphantly to the end they aimed at, not only without the aid of their "*brethren*" of the Boston profession, but in spite of opposition and persecution at their hands, absolutely without a parallel, or near approach to a parallel in the history of the introduction of vaccination or even of inoculation in any city or country of the world.* This is

*In the Boston *Polyanthos*, for May, 1806, there is a brief biographical notice of Waterhouse and a few autobiographical notes in the preface to his own remarkable volume on the authorship of Junius (a subject not so hackneyed then as it has since become). I can remember no other attempt at his biography. Appleton's cyclopedia contains some ten or a dozen lines in which no allusion is made to what was really his great life-work. Waterhouse was, probably, the most thoroughly educated American physician of his time. Nephew of the great Dr. Fothergill and, through that relationship with the recognized head of the English profession, the recipient of very exceptional advantages. Before leaving America he studied medicine with a very competent physician (Dr. Halliburton, of Newport, R. I.) for three years. In London he enjoyed the familiar intimacy of Fothergill, residing in

not the place to give even a sketch of the shameful history of the persecutions of Boylston and Waterhouse. If life is spared to the writer, with somewhat ampler leisure, that history, so far as it relates to Benjamin Waterhouse, shall be written, for of him no

his house, improving the opportunities of his immense practice, and of his daily, hourly instruction and counsel. Afterwards he studied for a year or more at Edinburgh (then the second medical school) and subsequently, for a full term of study at Leyden (without question the leading school of the time) where he took the degree of Doctor of Medicine. He was the life-long friend and correspondent of Lettsom, Fothergill, Hunter, Jenner, and, indeed, of all the leaders of English medicine. So great was his acknowledged merit that, no sooner had he settled down in a large practice at Newport, (his native place) than he was invited by the government of Massachusetts and of Harvard University to accept the Professorship of Theory and Practice in the medical school of Harvard, of which Dr. John Warren (Anatomy and Surgery) and Aaron Dexter (Chemistry) constituted, with W., the entire Faculty. He was the author of the very earliest literary medical productions in Massachusetts which have the slightest claim to consideration and remembrance. Of his works I will mention the volume and several pamphlets and a very large number of letters and papers, some of them long and elaborate, and all of them very well written, on vaccination; a very carefully and practically written volume on *Pertussis*, forgotten and excessively rare, but well worth consideration and study even now. A large octavo volume on the authorship of Junius, his most ambitious literary labor, in which Lord Chatham is held to be the man behind the mask. The mention of these works, however, gives but a partial and imperfect notion of his literary activity or of its results, which are to be found scattered among the various secular and medical journals of his time. Results produced, let it be remembered because such men as he *must* work, must strive for the good and improvement of humanity and their profession, not because he had any of those auspicious stimuli of success, popularity, applause and wealth which excite and reward an author. It would be hard to imagine an atmosphere more chilling and paralyzing, a sky more leaden, forbidding, even threatening than surrounded and hung over the whole literary life of Waterhouse, from the first day that he yielded to the glittering bait of a professorship and the honor of being a founder of the first medical school of New England. When one looks for some reasons for the bitter animosity of the Boston profession to W. during his long life after his removal to that "Modern Athens," and the remarkable paucity of all biographical mementoes following his decease, they are quite readily and sufficiently found in the fact that he was, by natural capacity, as well as by education, superior to any man in the coterie that opposed and persecuted him. *That* is an offense which mediocrity cannot forgive. (2d). That he was a man not to submit tamely to wrong nor to bend the knee to the Baal of popularity. (3d). That he was the representative of Jenner in America, chosen by that great benefactor for that great work, applauded by him while it was being done and thanked and perfectly approved when it was finished. The authorities of the Massachusetts Medical Society had a pet representative of vaccination of their own selection. It did not suit them at all that no one recognized or thought of him in that capacity except themselves. Their pet was a disciple of Pearson and Woodville, Waterhouse first, last and always a faithful follower of Jenner. (4th.) He disapproved, and repeatedly, with no uncertain sound, expressed his disapproval of the practice of his time, a practice which, for certain local reasons, reached a degree in Boston and the regions influenced by that professional centre, not paralleled elsewhere, a practice sufficiently defined by a famous saying of one of Waterhouse's most prominent Boston

biography has yet been written.* The matter is now alluded to at all by the writer, merely to account for the intense and quite peculiar interest with which he has, little by little, gathered together the facts connected with the first introduction of inoculation and vaccination in America. It has been a great consolation for all the scurvy treatment he has himself received to know that it is but a faint and imperfect repetition of the outrageous villainy with which men, far worthier and nobler workers in a similar field, were for long life times pursued, in the same community, by the ancestors of the very men who now constitute the leaders of the BOSTON CLIQUE, for it is one of the peculiarities of matters medical in Boston, that not only is surgical genius and even talent, but also controlling influence of the coterie so well known by that expressive title, a matter of birth and inheritance. Like the wages of sin it is visited to the third, yea! in one instance at least, even to the fourth generation.

contemporaries. "Yes, sir! I have drawn many a hogshead of blood and administered many barrels of calomel and hope to live to draw and administer many hogsheads and barrels more." He did not disapprove of the rational use of blood-letting and mercurials, but of the "*heroic*" practice of the time and place which has long since been decided to be irrational and most disastrous. He even went so far as to say that the medical heresies of Thomsonianism would, to a certain degree, do good as they denounced mercurial treatment and preached the exclusive use of vegetable remedies. He deplored and denounced the prosecutions and persecutions of Thompson as disgraceful and injurious to the profession. (5th). And *chief*, over the heads of all the Boston physicians (utterly unfit and incompetent but it was hardly to be expected that *they* would see or acknowledge *that*) he, a Rhode Island man, had been elected Professor of Theory and Practice in Harvard. This was the true bone of contention, not much *meat*, as it surely proved, for it took W. from his beautiful native town, from a delightful, appreciative and refined society, from a large and affluent practice and gave him poverty, persecution, "envy, hatred, malice and all uncharitableness," but, with all these—the empty title of Professor of a chair which for a great many years yielded him no income at all, and never an income of \$400 annually. It was, however, the bone of contention, about which a crew of hungry, ravening, snarling, incompetent Boston doctors raged and yelped until poor Waterhouse threw it up in disgust.—H. A. M.

*In Thatcher's "American Medical Biography," under the head of "Boylston, Dr. Zabdiel, F. R. S.," and in the very valuable "History of Medicine in America," preceding that work will be found a sufficient history of the life of Boylston to more than justify all that I have written above, enough to justify all that I could possibly write in the same vein. The reader may safely accept my assurance that the persecution of Waterhouse was as ferocious and vindictive, though the weapons were a little *finer* than mobs with halters, lighted bomb-shells and attempts at murder and arson and subornation of perjury of Scotch and French vagabond medical adventurers.—H. A. M.

During the decade ending in 1808, that wonderful medical novelty, vaccination, largely occupied the medical mind of Europe, and what little of civilization lay outside the bounds of that favored continent. Indeed, not only physicians, but many others of a philosophic or philanthropic turn, fascinated by the wonderful truth proclaimed by Jenner, hoped in some humble way and degree to win a name which might be associated with his, man's greatest benefactor. Kings, nobles, great Dignitaries sought to merit the gratitude of men by their efforts to spread among their peoples a knowledge of the wonderful Talisman whose virtue was of sovereign efficacy against the direst of all the plagues that threatened, and threatened always, our poor humanity. Other pestilences visited Christendom at intervals, generally long ones. However unlike Angel's visits in other respects, they were "few and far between"; but the evil angel, *variola* was always present, always imminent. None knew when, nor with what lethal force his dread arrows would be sped, arrows threatening not only life, but which sparing that, often left a poor, languishing, broken, scarred wreck of womanly beauty and manly comeliness and vigor. Few, even in our own profession really, in these days of skepticism, even distantly appreciate the immense boon which vaccination has been to humanity, but in the early days of this century there was no such want of perception of the value of Jenner's beneficent practice. All knew too well how fearful and inevitable was the plague it promised to avert.

What a contrast now! Instead of engaging the thought and research of every thinking man in the profession, vaccination is really *studied* but by a few eccentric students. The names of even the *leaders* of that legion of able investigators who sought to emulate Jenner, and win immortality by earnest labor in development of his doctrines, are well nigh clean forgotten. Who knows now of Pearson, of Woodville, of Willan, of Bryce, of Sacco, of De-Carro, of Stromejer, and of a myriad more who, nevertheless, most fairly won a title to gratitude and far more lasting recollection? But, coming nearer home, how many physicians of America are familiar with even the name of Benjamin Waterhouse? To how many possibly will these pages convey the very first intimation that such a person ever existed? and yet, Waterhouse was, without any doubt, one of the *very* ablest and worthiest

of the innumerable disciples of Jenner, was so esteemed by the great benefactor, and won the title of "JENNER OF AMERICA," not by the favor of a clique or of some partial editor or club of mutual admiration, but by the concurrent voice of the medical profession of Great Britain as expressed by the unanimous enthusiastic verdict of the London Medical Society. Letters of Jenner, still extant, afford ample evidence of the perfect confidence he reposed in the man he selected to promulgate his doctrines in America, and even those who have looked but superficially into the matter well know how ardently, enthusiastically, untiringly, bravely and wisely that selection and confidence were justified and rewarded. Those only who have looked more deeply into the history of Waterhouse's long stewardship of the trust so fully reposed in him by Jenner, can even distantly appreciate the difficulties of his position in those days of most slow, difficult and precarious communication with Europe, when America was practically ten times, yes ten times that, further from England than now. Those rare students alone can know the rare sagacity with which Waterhouse perceived truth and detected error, when, so far removed from the aid and counsel of his master, error and falsehood and calumny surrounded him on all sides and truth was well nigh inaccessible. They alone can appreciate the real peril in which the malignant perversity of enemies and its results placed him more than once, the treacherous duplicity and meanness with which his professional "brethren" of the "Massachusetts Medical Society" deserted him on one flimsy and transparent excuse or another, and left him to meet that fearful peril alone. They alone can know how readily, when the erroneous notions and practice of Woodville bore their inevitable disastrous fruits not only in England but this country the man whose name Boston medical after dinner orators even now mention as the promulgator of vaccination in America BEFORE or *even to the exclusion* of that of Waterhouse rushed rapidly into print to recant his full faith in Jenner and vaccination. Such students, in the total absence of any easily accessible memoir of Waterhouse, can alone know and estimate the courage with which, ALONE, abandoned by the President and Vice-President of the Massachusetts Medical Society who had *promised* to accompany him he calmly faced the enraged population of Marblehead among whom a variolous epidemic raged, the result of the labors of a gentleman who had

actively inoculated a large percentage of its population with virus obtained from one of those famous *Vaccinifers* of Woodville whose *vaccina** was complicated with "burdens" of from 50 to 5000 pustules on all parts of the body. They alone know how bravely he met that mob of afflicted and enraged men, afflicted because those near and dear to them were in the grasp of the destroyer, enraged because the professional *brethren* of Waterhouse had informed them that their affliction was but a legitimate result of the new fangled inoculation which Waterhouse had so ardently taught. They knew, too, that that mob being neither one of medical or theological bigots did *not* hang Waterhouse or tar and feather him at least, which it must be feared would have been an exquisite gratifications to the two *brethren* who *should* have been with him but were not, but listened to his calm, clear, honest, and under all the circumstances, marvellously sagacious and accurate explanation of the disaster and accompanied him homeward with thanks and honor and cordial invitations to visit their town again. It is a *pity* that our profession should possess no memorial of a man in every way so worthy as Benjamin Waterhouse. It is a *shame* that the *odium medicorum* which surely comes *next*, (the only question can be whether *before* or *after*) to that *odium theologicum* we have all heard about, should have succeeded in obliterating and obscuring the record of so much, and such rare sagacity and courage as his whole long life and his apostleship of vaccination displayed. Who knows or cares that this great and good, and learned man labored, wrote, contended and impoverished himself in the long-continued and successful effort to make known the *true* doctrines of Jenner and vaccination in America, and that when, in 1810, he petitioned the Legislature of Massachusetts to, in some slight degree, reimburse him for what he had lost and suffered, he received from that august body ("Lobby'd" by the dignitaries of the Massachusetts Medical Society) gracious permission to "withdraw his petition"? Who knows or cares to know that the Medical Society of Massachusetts, which had opposed Waterhouse and vaccination, *as taught by Jenner*, for ten long years, and won for Massachusetts, the dubious

*The term *vaccina* is the only one used by Jenner, Waterhouse and all the earlier writers on vaccination. It is correct, and, as there is no other reason for the termination in *a* except a silly eupheism. I have, in this paper, as in previous ones, chosen to resume the old, original and entirely correct word.—H. A. M.

distinction of being the *very last* civilized State whose profession, by its acknowledged executive, recognized vaccination? It was not until June, 1808, that the Massachusetts Medical Society accepted the report of a committee on vaccination, and thus tardily and ungraciously yielded its countenance to the beneficent doctrines which had been welcomed with enthusiasm, while its author had been loaded with every honor which gratitude could inspire, by every civilized country. Will it be believed that this committee of three did not include, although he was one of the oldest members of the Society, the man whom Jenner had selected as his champion, and who, single handed, had fought the fight, and long before, won the victory for vaccination in America? In that committee's long-winded and utterly trashy report, made up entirely of long excerpts from English books and journals, Waterhouse's name does not once appear. Who knows now of all this old persecution, unfairness and unworthiness? Who could even guess the truth when glib annual orators claim, as one of the chiefest labors and services of what *they* call the "time-honored glorious old conservative Massachusetts Medical Society," the exclusive agency of first introducing vaccination in Massachusetts and this wide union of States, the truth that that Society, through its executive, did all it could to oppose vaccination, to hinder, villify, and persecute the noble man, who, in the face of obstacles innumerable, struggled for the truth and won—won! What? Poverty, persecution, bitter and mendacious, and a fame *so* great and lasting, that only here and there an eccentric student knows more than his name. It is a great lesson for those who think too much of the fleeting honors and renowns of our profession.*

*I have, in a previous note, sufficiently, although by no means exhaustively, explained the reasons for the animosity of what is called "the Massachusetts Medical Society towards Waterhouse." A word or two, however, is necessary in explanation of what I mean by the Massachusetts Medical Society. That Society is intended to include all, and *does* include nearly all the members of the regular medical profession in Massachusetts. It is by no means towards the entire body of the regular profession of that State or any other that I would express anything but entire and deep respect. What I *always* mean by the Massachusetts Medical Society is the narrow clique of Boston physicians which, owing to a most absurd and faulty organization, based on the worst possible model, that of the London College of Physicians, has, from its very earliest beginnings in 1783, completely controlled the *executive* of that Society and misrepresented the medical profession of Massachusetts; no more in the days of Waterhouse than now, no more now than fifty years hence if

Few in America to-day know much of Benjamin Waterhouse, though it is but some 35 years since he "passed to the majority." How many in the South, loyal as she is to her great men and memories, know that one of her greatest men, at the very time when he was at his greatest, President of the United States, when to be President was the sure seal of merit and patriotism, THOMAS JEFFERSON, was not only a patron and student of vaccination, but an active practical disciple of Jenner and the direct introducer of vaccination into Virginia, Pennsylvania and the whole South?

I do not know, perhaps; the South is more grateful to her medical benefactors than the North has been, and that Jefferson's beneficent agency in this matter is familiar to every Southern man, or at any rate, to every Southern physician.

The writer of this paper has given some money and much research and labor to the accumulation of a large collection of so much of the more ancient literature and history of vaccination as has escaped the paper mill and the trunk maker. In this pursuit he has become possessed of the already very rare works of Waterhouse, and enjoys the fortunate privilege of the temporary custody of the sadly imperfect, but precious relic of what must have been the enormous correspondence of the Jenner of America with the leading minds of Europe and America.* This mass of manuscript contains letters

the same miserable organization continues, an organization by which every meeting of the counsellors [a body which has gradually, as is the invariable and inevitable tendency of such bodies, aggrandized the entire control and even law-making power of the Society at large, the only right of which is to register and approve votes, with the proposal or passage of which it has had nothing whatever to do] is constantly and entirely controlled by a large majority of Boston men and their suburban confederates, distant rural districts being necessarily most inadequately represented at the meetings, all of which are held in Boston and in the evening; to attend which, members of the council residing at a distance must make great and *practically* impossible sacrifices of time, money, and convenience.—H. A. M.

*Owing to the eccentricity of a relative of Waterhouse, his correspondence during a very long and active life, which was known to be enormous in extent, most carefully annotated and preserved, as well as a very elaborate diary from which a few excerpts survive, begun at a very early period and continued for the greater part of a very long life have been lost; sold as waste paper, destroyed as worthless. All that is known to remain are a very few of Jenner's letters and the correspondence of Jefferson, Madison and Adams. We can scarcely estimate how great has been our loss in the annihilation of such a vast mass of correspondence for so long a period, of most of the leading minds of the English profession, as well as that of America, with so very worthy a correspondent as the many letters still extant in M.S., as well as printed, (in Haygarth's book, Lettson's life and letters, &c.) clearly prove Waterhouse to have been. The relative and *heir* alluded to, had, doubtless, the greatest reverence for the memory of Waterhouse but an unfortunate insensibility to the value of old letters. Nearly all such were destroyed, while the large mass of the Doctor's College lectures on Theory and Practice and Natural History were and are carefully preserved; a pious duty to his memory, of dubious service to the present generation.

from Jenner, Presidents Madison, John Quincy Adams, and, most complete of all, and certainly *as* interesting and valuable as any, a series of fifteen letters from Jefferson, dated from 1801 to 1822. While arranging material with a view to attempting a biography of Waterhouse and a history of the first introduction of vaccination in America, a work far more complicated and difficult than was at first hoped, it occurred to the writer that an easier task might be a short narrative of Jefferson's connection with vaccination, consisting of that great man's own letters, with Waterhouse's own comments upon them and little else, nothing whatever unless an occasional word of note or explanation should seem necessary to a clear or *clearer* understanding.

I have given you the entire *raison d'être* of this communication. Perhaps you may think it worth publication. If so, and its publication should really be of service in rescuing from oblivion a most interesting episode in the career of one of America's greatest patriots and statesmen, and one of the many noble citizens of Virginia and the South, exciting a little long dormant or quite deficient gratitude to the memory of Waterhouse, or, possibly, for even so far will sanguine enthusiasm sometimes carry one—reviving, here and there, a spark of interest in the much neglected study of vaccination and of its almost forgotten history and literature, a faint appreciation of the vast debt we *all* owe to Jenner and we of America to him who was esteemed by all worthy contemporaries, one of his worthiest if not the most worthy of his disciples, and a twinge or two of not entirely pleasant consciousness of the way these admirable men were treated during life and have been forgotten since, the writer will be much more than rewarded for the *modicum* of trouble the work has given him.

That the story of the introduction of vaccination in Virginia, Philadelphia and the Southern States can be essentially told in the *ipssissima verba* of Waterhouse and Jefferson is an advantage which, it is not doubted, will be appreciated by the reader.

INTRODUCTION OF VACCINATION IN AMERICA BY WATERHOUSE.

In the beginning of the year 1799, Waterhouse received from his old friend, the great Quaker physician and philanthropist, Dr. Lettsom, of London, a copy of Jenner's now famous "Inquiry into the Causes and Effects of the Variolæ Vaccinæ or Cow-Pox." Read-

ing that work he was struck with the remarkable advantages that might accrue to America as well as to the whole human race from Jenner's discovery and practice. Soon after receiving Jenner's Inquiry he received Dr. George Pearson's book.*

The first fruits of his study of these two earliest publications of the literature of vaccination was a communication to the *Columbian Centinel* (a Boston newspaper) of March 12th, 1799, entitled "Something Curious in the Medical Line," a brief but extremely well written announcement and description of Jenner's discovery and doctrine. "This publication" writes Waterhouse in his forty paged pamphlet entitled "A Prospect of Exterminating the Small-Pox" (1800) "shared the fate of most others on new discoveries. A few received it as a very important discovery, highly interesting to humanity; some doubted it; others observed that wise and prudent conduct, which allows them to condemn or applaud, as the event might prove; while a greater number absolutely ridiculed it as one of those medical whims which arise to-day, and to-morrow are no more." For ten long years the two latter classes seem to have practically included the entire profession of Boston, judicious straddlers of the fence ready to jump to either side, and utter doubters.

One fails to discover, with the bright exception of Waterhouse, a single enthusiastic faithful believer and disciple of Jenner. A few weeks afterwards, at a meeting of the "American Academy of Arts and Sciences," Waterhouse stated all that he had then learned of vaccination, exhibited Jenner's "beautiful publication" and repeated all that he could remember of Pearson's book which some

*The title of Pearson's book, the second on vaccine literature is "An Inquiry concerning the History of the Cow-Pox principally with a view to SUPERSEDE and EXTINGUISH the SMALL POX, by George Pearson, M. D., F. R. S., Physician to St. George's Hospital; of the College of Physicians, &c. Felliciores Inserit "Hor London, 1798." That of Woodville, which was the next to appear is "Reports of a series of Inoculations for the VARIOLE VACCINÆ or Cow-Pox with remarks and observations on this disease, considered as a substitute for the small pox by Wm. Woodville, M. D. Physician to the Small-Pox and Inoculation Hospitals | London | 1799." This latter book is one of the most amusing and instructive but deplorable instances of a great "authority" making absurdly erroneous observations and dogmatically insisting on the utterly fallacious deductions made from them. The book and its author were the instructors of that Pet of the Massachusetts Medical Society who may justly be called the *Woodville of America*. The work did infinite harm to the cause of vaccination, and much to perplex and embitter the lives of Jenner and Waterhouse.—H. A. M.

kind friend of a species not yet extinct, had *borrowed* and failed to return. At this meeting of a society of the most eminent Americans, but of which very few physicians were members, presided over by John Adams, the then President of the United States, Waterhouse records that "the reception of this communication was much to my satisfaction especially with the ILLUSTRIOUS PRESIDENT, who to a profound erudition in laws and politics, joins a no small knowledge in the science of medicine."

It is not in accordance with the plan of this paper to continue the narrative of Waterhouse's labors to obtain the fullest and most reliable information in regard to vaccination, and to make that knowledge available and useful to his countrymen. His own publications and other sources of information reveal how arduous those labors were, involving a very extensive correspondence with leaders of the English profession as well as with Jenner himself, and with innumerable inquirers in every part of this country; and also frequent and able papers in the secular press and in the single American Medical Journal then existing.

Although Jenner's, Pearson's and Woodville's books had been sent to Waterhouse by Lettsom and other English friends, none of these seem to have been thoughtful enough to accompany these gifts with supplies of vaccine lymph, but Waterhouse lost no time in seeking the treasure. "Under a Serious Impression" he writes "of effecting a public benefit, and conceiving it, moreover, a duty in my official situation in this University, I sent to England for some of the *vaccine* or *cow-pox matter* for trial. After several fruitless attempts, I obtained some by a short passage from Bristol, and with it I inoculated all the younger part of my family."*

*The first consignment of *efficient* virus to this country was from Dr. Haygarth, of Bath, procured for him by Mr. Creaser, surgeon of that city. Dr. Haygarth's friendship for Waterhouse was of old date, from 1778, at least, when Waterhouse was a pupil and guest of his uncle. A long and extremely interesting letter of that date, on the very peculiar and stringent, not to say cruel, method of isolating small-pox patients in the colony of Rhode Island, his native colony, by Waterhouse, is to be found in Dr. Haygarth's "Researches on Means of Preventing the Natural Small Pox" (I have not got the original, and re-translate the title from a contemporary French translation) a book, once deservedly famous, which strongly urges the same system, strictly enforced, as the proper means, inoculation, however beneficial to the individual having there been fully proved most disastrous to the unprotected community, of controlling the spread of *variola*. When vaccination was announced and its *perfect* prophylactic efficacy

The first person vaccinated in America was Daniel Oliver Waterhouse, a boy five years old. The operation was successful. The *phenomena* of the disease in this case are well described by the father, but, of course, need not be repeated here. One remark, however, with which the description closes, deserves to be preserved in these days when any sort of a "mark," no matter how smooth or shallow, is dismissed by many as sufficient evidence of a "good" preceding vaccination: "A piece of *true skin* was fairly taken out of the arm by the *virus*, the part appearing as if eaten out by a caustic, a *never failing sign of thorough affection of the system in the inoculated small-pox.*" The narrative of the vaccination of other members of the doctor's family, servants, &c., their full exposure to the contagiousness of *variola*, both by volatile *effluvia* and inoculation at Dr. Aspinwall's small-pox hospital, and the perfect proof of the complete protection vaccination had afforded thus obtained, and much more connected with the early history of vaccination in America, may be found related in Waterhouse's first pamphlet, but this is not the place to relate these events. The writer must, however loath, forbear quotation of what he has always considered an extremely interesting narrative, and hasten on to the more limited point which he finds it so hard to reach. Waterhouse's first supply of virus, reached him early in July, 1800. The pamphlet in which he describes the vaccination of his family, and their exposure to variolous contagion was published in August, at which time, as we learn from a note on page 25, five members of his family, (three children and two servants) were still residing at Dr. Aspinwall's Small-Pox and Inoculation Hospital in Brookline, Mass.

The subsequent history of the introduction of vaccination is to be demonstrated, this plan fell to the ground for it was then *assumed* that vaccination would be *invariably* and *fully* adopted and practiced. Now, however, in the shameful neglect of anything like, or approaching an adequate appreciation of the inestimable value of vaccination, (by which term, of course, I wish to include that thorough re-vaccination after the age of puberty, which experience, not in the possession of the early vaccinators, has *proved* to be necessary to complete the *prophylaxis*), sanitary philosophers are again advocating isolation, (a method of great efficacy where the disease manifests little tendency to spread, but of very little use in large dense populations where anything properly called an epidemic or pandemic influence prevails) and pooh-poohing vaccination as a means of secondary or even doubtful value. They seem to forget how *very* thoroughly isolation was once practiced and of how little value it proved except in populations so sparse that it was hardly indicated.—H. A. M.

found in "A Prospect of Exterminating the Small-Pox, Part II," published in November, 1802, and dedicated to John Coakley Lettison and Edward Jenner. This is a book of 139 pages, by far the most important work on vaccination which has yet appeared on this side of the Atlantic. The assertion is made with full knowledge of the works of Seaman, Scofield, and the still more ambitious productions of Dr. Coxe, of Philadelphia. The two first have little *original* merit and Dr. Coxe's book, however meritorious in most respects, broaches certain original theories of the author leading to a violation of the "*golden rule*" of Jenner "*never to take the virus from a vaccine pustule for the purpose of inoculation after the efflorescence is formed around it,*" and thence to incalculable harm to the practice of vaccination in America by the production of innumerable cases of spurious *vaccina*, and thence great imperfection or total absence of protection.

Reading this work of Waterhouse, we cannot help feeling sincere respect and admiration for the sagacity and enthusiasm of the author. What seems simple and familiar enough to us presented many and very difficult problems then. In solving these he faithfully followed every indication afforded by the MASTER, but at every turn difficulties arose, difficulties in the subject itself, in the false teachings of Woodville, Coxe, Pearson and others, and resulting from the malpractice of many of his "brethren," in which the aid of Jenner, in those days of slow and precarious communication with Europe, was not available, in which his own wisdom and courage must aid him. It is pleasant to record that they never failed him, and his book is so sound on every important part of his subject that, even now, it may be read with infinitely, more advantage, and less danger of erroneous teachings than many, perhaps, most of the more modern, better known, and far more frequently consulted works on vaccination.

The first American vaccination was made July 8th, 1800. By the 1st of September, Waterhouse had vaccinated "about fifty persons of different ages, sexes, and conditions," and "public attention was thoroughly excited." From "all parts of New England" he received "very numerous letters requesting further information, as well as a supply of *matter* for carrying on the inoculation."

With Waterhouse's announcement of the successful vaccination

of his family, and the thorough and triumphant test and proof of its value as a perfect *prophylactic* of *variola*, his labors and troubles began ; labors and troubles to be continued through many years, utterly thankless and unrewarded, but performed and overcome with wonderful energy, enthusiasm and wisdom. Innumerable were the inquiries and demands for vaccine virus and, although he was untiring in his efforts, innumerable the complaints because, all were not answered and every demand not immediately gratified.

In the secular press, in the rarely appearing issues of medical journals, in every available way he ceaselessly cautioned the profession to be careful to follow *exactly* the precise and admirable rules laid down by Jenner, not one of which has failed to withstand the test of time or to survive the antagonistic doctrines of innumerable theorists. Over and over again, he repeated, and enforced the repetition with much ability and eloquence, that inestimable "GOLDEN RULE" of Jenner already referred to ; adhering to which, exactly, one can hardly go amiss, and departing whence has been the fertile source of an incalculable amount of evil.

It is not too much to say, that, with a precise and accurate knowledge of the development, from day to day, of the *vesicle* of true *vaccina*, not only from its first appearance to the formation of the *areola*, but from the decline of that efflorescence until the spontaneous fall of the scab, and of the true characteristics of the latter as well as of the scar which its fall reveals, and an inflexible determination to observe the "GOLDEN RULE," the practitioner possesses all the knowledge and principle necessary to make a successful and intelligent vaccinator.

Waterhouse's cautions and labors were unheeded, misjudged and futile.

In his own words : " But these repeated cautions were disregarded by the young and sanguine practitioner, who saw nothing but regular cases, little trouble, and great profits. If those whom it most concerns will not attend to what is written expressly for their information, they must alone be answerable for the consequences. There are cases where ignorance is converted into a crime.

" Perceiving that my reiterated warnings were misconceived and misrepresented, and finding some professional gentlemen in the country so wrapt up in ideas of extreme simplicity, that they encour-

aged women and children to inoculate each other, I ceased from further expressions of that kind, and endeavored to content myself with predicting the consequences.

“During this period, viz : the autumn of 1800, a singular traffic was carried on in the article of *kine-pock matter*, by persons not in the least connected with the medical profession ; such as stage-drivers, pedlers, and in one instance the sexton of a church. I have known the shirt sleeve of a patient, stiff with the purulent discharge from a foul ulcer, made so by unskilful management, and full three weeks after vaccination, and in which there could have been none of the specific virus ; I have known this cut up into small strips, and sold about the country as genuine kine-pock matter, coming directly from me. Several hundred people were inoculated with this caustic morbid poison, which produced great inflammation, sickness, fever, and in several cases *eruptions*, with a greater disturbance of the system than what occurs in the true disease. It is worthy of remark, that I could not influence these people to believe that they had *not* passed through the true di-ease, and that they were *not* secure from the small-pox. So true it is, that a man need not despair of making the common people believe anything *but* TRUTH ! That vagrant quacks should stroll about the country, inoculating for half a dollar a head, and some for less, is not quite so surprising as that they should, in such a country as ours, find people weak enough to receive it from such hands ! This imprudence ought not, however, to be attributed to the common people alone. Many young practitioners in country villages come in for a share of it. Not a few first inoculated themselves, and then others, without having read more than the newspaper publications, and some not even those, and were looking out for eruptions, and foretelling appearances and symptoms that are never attached to the disease ; and if any very disagreeable occurrence arose, in the course of this imprudent practice, the odium reverted to me.”

Following this is given a narrative of the terrible catastrophe resulting from all this reckless, ignorant, presumptuous, tampering with a new and as yet a very unperfectly known practice, at Marblehead, a large Massachusetts town, an event which had a partial parallel at Norfolk and Portsmouth in Virginia, and in other parts of the country. The result of all this malpractice and of an im-

perfect knowledge of the best methods of preserving "stored" vaccine virus, was extreme and rapid deterioration, and, at last, entire loss of the first supply of true vaccine lymph in America.

"Very early in the spring of 1801" Waterhouse received "a fresh supply of *virus* from England from Drs. Lettsom and Jenner, and soon after, more from Dr. Pearson, Dr. Woodville, Mr. Ring, Mr. Wachscl, Mr. Kerre, Sir Granville Temple and the Vaccine Institution, of London, and also, from Dr. Haygarth and Mr. Creaser, of Bath, and Mr. Dunning, of Plymouth Dock."* "Previous to this second importation," he writes, "I had reason to believe that the true *virus* had become extinct in America. *The inoculation was, however, carried on here and there, in the country with such matter as they had.*"†

Those ample supplies were used immediately with prompt and perfect success, the narrative of which is given with a very admirable commentary on the contrast between the regularity and mildness of the development of the *true* and *protective* disease in contrast with the irregularity and violence of the phenomena and symptoms of that totally unprotective *spurious* disease, apt to result from the use of lymph taken from the vesicle after the formation of the *areola* and *sure* to follow the inoculation of decomposed or decomposing pus, but which many of Waterhouse's contemporaries, who misjudged his motives and disregarded his repeated cautions, had pronounced perfect and admirable developments of *vaccina*. All this is extremely interesting and might be republished and pondered even now with profit. The disasters and innumerable annoyances accompany the use and gross abuse of the first importation of effi-

*I have given Waterhouse's long list of English physicians and institutions supplying this "second importation" of virus, merely to illustrate the great extent of his European correspondence, as affording, too, some slight indication of the arduous nature of his labors, as a missionary of vaccination, by those who were, above all others, competent to criticize and judge.

†The *italics* are mine. The employment of dubious vaccine virus, in the absence of any State or public institution whence perfectly reliable and *gratuitous* supplies might be always obtained, on a sort of theory, any false, in vaccination at any rate, that a poor remedy, or rather pretense of remedy, is better than none at all, has always been one of the great evils in America, and the cause directly of a vast amount of imperfect or quite illusory "protection," and *indirectly*, both by failure to afford immunity from small pox and by the production of "bad arms" (the "loathsome hideous eating ulcers," "running sores," "disgusting eruptions," &c., &c., &c., of the anti-vaccinists) very serious injury to the cause and reputation of vaccination in this country.—H. A. M.

cient virus determined Waterhouse to exercise the greatest caution in selecting those to whom he should distribute, what he calls the "second importation" of virus.

Vaccination had not yet been introduced into the Southern States but, in his own words :

"About this time (the Spring of 1801) I received a number of letters from a variety of people in the Southern States, especially from Virginia, expressing a strong wish to be better acquainted with the kine-pock, and a desire to introduce this benign remedy into that extensive region. As most of the writers were entirely unknown to me, I was at a loss how to act. I might deny a physician of character, and I might entrust it to a person who had none. Some untoward occurrences in the past year rendered me cautious ; for I had unknowingly encouraged mere *speculators*. I use that word in its modern and degenerate sense. While doubting what course to take, the right road opened to my view.

"I had heard that President JEFFERSON was favourably impressed by my first annunciation of the Jennerian discovery and practice. Indeed, the following letter, written in consequence of transmitting him a copy of my pamphlet on this subject, sufficiently testifies it:

"WASHINGTON, Dec. 25, 1800.

"SIR :—I received last night, and have read with great satisfaction, your pamphlet on the subject of the kine-pock, and pray you to accept my thanks for the communication of it.

" 'I had before attended to your publications on the subject in the newspapers, and took much interest in the result of the experiments you were making. Every friend of humanity must look with pleasure on this discovery, by which one evil more is withdrawn from the condition of man ; and must contemplate the possibility, that future improvements and discoveries may still more and more lessen the catalogue of evils. In this line of proceeding *you deserve well of your country* ; and I pray you accept my portion of the tribute due to you, and assurances of high consideration and respect, with which I am, Sir,

" 'Your most obedient, humble servant,

(Copy.)

" 'THOMAS JEFFERSON.' "

DR. WATERHOUSE, Cambridge.*

*This is the letter which, as a note on the margin of the second letter (the first *fac-simile*) in the handwriting of Waterhouse informs us was sent to Jenner, and, of course, it is not to be found in the series of *fac-similes*.

"Hearing by some gentlemen direct from the seat of government that the PRESIDENT wished for still more information and that he was desirous to see the practice introduced into Virginia and the other Southern States," Waterhouse "sent him the vaccine virus and painted representations of the pustule* in all its stages on the white man and on the African." This precious package was accompanied by a long (seven pages in Waterhouse's book) letter, excellently written and giving a masterly *resumé* of the whole subject of vaccination. A foot note informs us that this letter was repeated in many manuscript copies which were widely circulated "at the southward" and it doubtless contained the first *reliable* information on that subject received by many a Southern practitioner. Although this letter could hardly fail to interest Southern physicians it would

* "Pustule"—Waterhouse, here and elsewhere, uses the word "*pustule*" in describing the induced eruption of *vaccina*, rather than to appear, with what might be called, captiousness, to differ from Jenner and other English writers. The eruption of *vaccina* is not a pustule at any stage of its development. When the disease pursues a regular normal typical course, pus is never discoverable in the vesicle. After the formation of the *areola* pus exists in the tissues *outside* the vesicle as an accompaniment of the processes by which the cutaneous slough of which the crust is (with the desicated lymph) composed is cast off and the characteristic indelible scar produced. Waterhouse knew all this perfectly, as is evident from the following foot note to page 8, of the 2d part of his "Prospect of Exterminating the Small-Pox :—" "By the *pustule*, the British writers mean the circular sore, or vesicle made in the arm by inoculation; and not those eruptions, that have, in a few instances, appeared in places remote from the inoculated part. This difference in our phraseology has misled some among us. It ought not, strictly speaking, to be called *pustule*, until its contents have become *purulent*. The eruptions on the udder of the cow are more of *phyletic* than of the *purulent* kind." It may be usefully added that pus may appear in the vesicle, when it does it is as a result of injury or other causes and resulting inflammation and deterioration but this is not the regular normal or usual course, such a contaminated fluid is not fit to use for vaccination, but this fluid, a mixture of vaccine virus and pus, has been used times without number and even *pus*, quite unmixed with virus. We can well see how easily, by men, who regarded the vesicle as a *pustule*, a something *normally* secreting pus, and those who adopted the views of Coxé and others and collected material for their *inoculations* (they could not properly be called *vaccinations*) from the *site* of the vesicle so long as that *site* yielded, or could be *compelled* to yield a fluid of almost any kind. The fact, for it is a fact, that a normal perfect vaccine scab is very sure to afford material for *perfect* vaccination was thought by Coxé and his school (whose name was and is Legion) to triumphantly demonstrate the position that the above practice is quite free from objection. It would be extremely easy to exhibit the fallacy of this supposed proof and show that while a perfect typical vaccine crust, from a healthy *vaccinifer*, generally affords excellent material for vaccination *fluid* taken from *any* vaccine vesicle *after* the decline, even after the full formation of the *areola* is extremely *apt* to be the very worst and although such fluid *may* and often *does* induce perfect *vaccina*, it should always be declined.—H. A. M.

The following is Jefferson's answer. On the left margin, a note intimating that Jefferson's first letter had been considered a precious and grateful tribute to Jenner and, as such had been transmitted to him, is in the writing of Waterhouse :

Washington June 26. 1801

[illegible]

Th Jefferson

Doct. Benjamin Waterhouse

The next letter informs Dr. Waterhouse that not only the first, but also a second supply of virus had failed, but expresses hope that the third will be more successful. This hope was to prove fallacious. The letter contains an *original* and excellent suggestion of Mr. Jefferson's for the preservation of *virus* in hot weather. It may be worth while to state that the present writer *thought* he had invented the same plan which he found very useful in the summer of 1872. He procured the manufacture of several hundred sets of glass vessels, similar to test-tubes, for distribution to his correspondents. Each set consisted of one vessel to contain the charged points and a larger one containing water in which the smaller vessel was enclosed. He spoke with considerable complacency of *his* invention for a month or two, only, at the end of the time, to find that Mr. Jefferson was the inventor. This experience of the method convinced him that it is a good one and worthy of the recollection of practitioners wishing to keep virus from deterioration under certain circumstances, as for instance, on the office table during hot weather. It will be perceived that a small bit of this letter has been lost. There is no doubt that the letters "tre" formed part of the word *treatise*, or that the reference is to a now quite rare pamphlet by Dr. J. C. Lettsom, entitled, "Observations on the Cow-Pock, London, 1801," a work principally noticeable for the portraits it contains of the four men then fully recognized as *the* leaders in the great innovation of vaccination, viz. : Jenner, Pearson, Woodville and Waterhouse. The author believes the portrait of the latter and a poor reproduction of the same in the Boston *Polyanthos*, for May, 1806, to be the only engraved likenesses ever produced of a man, of whom, if men saw fit to thus honor their benefactors and saviours, rather than their disturbers and destroyers, the features would be perpetuated in "everlasting bronze" in every city of America.

A marginal note in the handwriting of Waterhouse and signed with his initials will be noticed.

Dear Sir

Washington July 25. 1801.

Your favor of the 17th arrived last night, together with the new vaccine matter which was immediately sent to Doct^r Canth. The 2^d as well as the 1st supply of matter had failed. we hope the 3^d will be more successful. how might it answer to put the matter into a phial of the smallest size, well corked & immersed in a larger one filled with water & well corked it would be effectually preserved against the air, and I doubt whether the water would permit so great a degree of heat to penetrate to the inner phial as does when it is in the open air. it would get cool every night, and should every day under the cover of the stage, it might perhaps succeed. I leave this place on the 30th inst for Monticello, being unwilling to risk myself on the telegraphers during the months of July & September, when situations which generate bilious complaints are most dangerous. my own is entirely exempt from that danger. should you be so good as to continue forwarding matter till it succeeds, it will now be best to address the packages to Doct^r Canth. from whom, so soon as he succeeds, I shall ask a transmission of fresh matter to Monticello, where I shall endeavor to introduce it. it will be a great service indeed rendered to human nature to strike off from the catalogue of it's evils so great a one as the small pox. I know of no one discovery ^{on medicine} equally valuable. Accept assurances of my great concern and respect

P.S. I enclose Doct^r Letorn's ltr.


* The m^r. sent agrees to this decision
with fewest possible exceptions. B.W

Doct^r Benjamin Waterhouse

The fourth letter acknowledges receipt of a further supply of virus and refers to the terror with which small-pox was regarded in Virginia.

Dear Sir

Monticello Aug. 2. 1801.

I had the pleasure of writing you on the 25th of July and of acknowledging the receipt of yours of July 17. with the vaccine matter which was immediately delivered to Doct^r. Gentl. your favors of the 26th & 28th came to me at this place on the 6th inst. and the matter accompanying them was, by a skilful physician of the nei^{gh}borhood, Dr. Wardlaw, immediately inserted into six persons of my own family. we shall thus stand a chance of planting the disease here where I imagine it will be as salutary as any where in the union. our laws indeed have permitted inoculation of the small pox, but under such conditions of consent of the neighborhood as have admitted not much use of the permission. That disease therefore is almost a stranger here, and extremely dreaded. I will take care to inform you of the result of our operation. accept my esteem and respect.


Th: Jefferson

Doct^r. Benjamin Waterhouse

The fifth letter refers to still further receipts of *virus* and the use that was made of them, and also to two vaccinations made on the 7th of August which exhibited symptoms leading the writer to believe that success had been, at last, achieved.

Dear Sir

Monticello Aug. 28. 1801.

I write you on the 3rd inst. that your favors of July 22. & 24. had come to me here. Doct^r Warble on the 7th inoculated two persons with the matter of the 22th & 4. with that of the 26th. The latter has no effect, but the two former show inflammation & matter. None of them complains of pain under the arm pit, & yesterday was a little feverish. The matter is of this size & form.  The inflammation about is an inch all round from the pustule. we have considerable hopes he has the true infection. yesterday I received your favor of the 1st inst. Doct^r Warble's inoculation inoculated 3 of the former subjects with it; & one died. he also ~~was~~ ~~from~~ ~~the~~ ~~pustule~~ ~~above~~ ~~described~~. you will regularly inform of the progress & success of this business. I learn from Washington indirectly that Doct^r Caste's efforts have all failed. should ours succeed he shall be supplied hence. I am very anxious to obtain the disease here. accept my best esteem & respectful salutations.

Th: Jefferson

Doct^r Benjamin Waterhouse

The next letter announces the undoubted success with which all the three different lots of virus, transmitted by Mr. Jefferson's method, had been employed.

Dear Sir

Monticello Aug 21. 1801.

I had the pleasure of informing you on the 18th inst. that I supposed the inoculation of the *kine proz* to have taken effect in two subjects. these were from the matter you were kind enough to send July 20. that of July 26. succeeded with 2. others. that of Aug. 1. with 4. on the 18th inst we inoculated from the 2. first subjects 15. others, 16 of whom very evidently have the infection, so that we have 20. now forming family on whom the disease has taken, besides some recent inoculations. some of them have slight fevers, headache, kernels under the arms, & one only has a very sore arm. most however experience no inconvenience; and have nothing but the inoculated pustule, well defined, ^{uniformly} filled with matter, & hollow in the center I have this day impregnated some thread, & half a dozen toothpicks, which I forward to Doct^r Beattie. He writes me that his inoculations all failed Doct^r Rankin of this neighborhood has so much other business that he has been able to be with us only twice. however I expect that the extent of my experiment will encourage the neighborhood generally engage him to introduce it in their families. to you they will be indebted for it, and I am sure they will be sensible of the obligation. accept assurances of my great esteem & respect

Jefferson

Doct^r Benjamin Waterhouse

Number seven announces the successful use, in WASHINGTON, of virus sent there by Jefferson, the transmission of supplies to Richmond, Petersburg and other parts of Virginia, refers slightly to certain futile and disastrous previous attempts to introduce vaccination

JEFFERSON AS A VACCINATOR.

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in Norfolk and Richmond which were followed by results similar to those observed at Marblehead and had done much to impede the

Sir

Monticello Sept. 17. 1801

I received by the last post your favor of Aug. 20. and by the same a letter from Doct^r Gent informing me that the matter I first sent him from home had taken in three of the subjects into whom it had been inserted that from these he had inoculated others, so that they are now in full possession of the disease at Washington. I have also sent matter to Richmond, Petersburg, and several other parts of this state so that I have no doubt it will be generally spread through it, notwithstanding the incompleteness which had been produced by the ineffectual experiments of Richmond & Norfolk. The first letter you were so kind as to write to me on the subject & which contained a great deal of useful information, I put into the hands of Doct^r Gent and we concluded it would be useful to publish it as soon as the public should be possessed of the disease. It is still in his hands, and as you have been so kind as to permit us to make any use of it which the general good may require, I shall propose to him to have it published immediately on my return to Washington, which will be within a week from this time. It is just our countrymen should know to those philanthropic attentions they will be indebted for relief from a disease which has always been the terror of this country. Accept my particular thanks for this great good, and assurances of my highest esteem & respect

Th: Jefferson

Doct^r Waterhouse

introduction and progress of true vaccination in the South, also to a proposed, but probably never executed publication of Dr. Waterhouse's long letter of instructions before alluded to.

The eighth letter is a very interesting one and affords a good idea of the care and wisdom with which Jefferson proceeded in this whole matter. It refers to the supply of virus, from his own Virginia vaccinations sent (through Mr. John Vaughn) to Dr. J. R. Coxe, of Philadelphia, by means of which, vaccination was first

Jan 55

Washington Dec 25 1801

I am indebted to you for several favours unacknowledged. I have waited till I could inform you that some variolous after vaccine inoculation had proved that I had presumed the matter, ^{of the cause} in its genuine form. Dr Coxe of Philadelphia has ascertained this, having received his vaccine matter from hence. To this is added your information that the matter I sent you produced the genuine disease and consequently those in Virginia who received the matter from me are now on security. Knowing how little capable the people in general are of judging between genuine & spurious matter from their appearance, or that of the sore, I endeavored in the course of my inoculations at home to find some other criterion for their guide. With this view I was very attentive to discover whether there be not a point of time counted from the vaccination, when the matter is genuine in all cases. I thought the 8. to 10. hours furnished such a point, I governed myself by it, and it has been followed here successfully by Dr Sant. but your experience, so much greater, can inform us whether this rule is a sure one: or whether ~~the~~ any other point of time would be still more certain. To the eye of experience this is not necessary, but for popular use it would be all-important for otherwise the disease degenerates as soon as it gets into their hands, and may produce a fatal result. I think some popular criterion necessary to insure this valuable discovery. Accept assurances of my great esteem & respect.

Th: Jefferson

Dr Benjamin Waterhouse.

introduced into that city. After the *fac-similes*, a letter from Jefferson which accompanied this supply of virus is inserted, reprinted from Dr. Coxe's volume on the cow-pock.

The ninth, and last of the series in which any reference is made to vaccination, is dated fourteen years after its nearest predecessor. It is a long and admirable letter, and is introduced here because it contains an eloquent and consoling tribute to Waterhouse amid the sad harvest of vindictive, malignant persecution and ingratitude he was reaping for so much enthusiastic, untiring, sagacious labor for the benefit of humanity; the only harvest he ever gathered, the only one that has ever yet been garnered by the *very* highest and noblest benefactors of mankind.

How long the list! How sad the thoughts its consideration must awaken! But thank God there have always been men to whom the lives of Galileo, Spinoza, Luther, Paré, Vesalius, Servetus, Harvey, Jenner, Bell, Waterhouse, and a very large and shining company of such men seem more attractive, with all their wrongs, poverties, disappointments, persecutions and chagrins, than those of the sleek, well-fed *orthodox*, CONSERVATIVE, successful and honored mediocrities who always have been, who *are* and always *must* be, their triumphant rivals, opponents, persecutors. It is one of the best and surest anchors and hopes of humanity that there always have been, and probably always will be, men to whom a consciousness of the honest, and fearless expression of important TRUTH, however unpopular or unappreciated, will always be more fascinating than the success and wealth which is too apt to soften and sweeten the lives of the docile apostles of routine and error.

A brief extract from a letter from Waterhouse to his old friend Lettsom is here appropriate. It is dated May 8th, 1810: "For the honor of my country I am ashamed to tell Dr. Jenner how I have been treated by our Legislature." (that of the State of Massachusetts) "respecting remuneration. I have received nothing but abuse, nay, more, I have been intrigued out of my place as Physician to the United States Marine Hospital, with 500 sterling a year, and given me by Mr. Jefferson as a reward for my labors in vaccination, and this merely in consequence of his going out and others coming in so that, at 56 years of age I have now to contrive and execute some new plan to supply this deficiency."

* * * * "Were I a single man and without children I would

go to England; if not to live there, at least to die there. You do not knock a man on the head in Britain because he exerts himself more than his neighbors do. * * * Sometimes one man influences and impels the sentiments and conduct of the public. I am not calculated by nature or habit to control intrigue."

Dear Sir

Monticello Oct. 13. 18.

I was highly gratified with the receipt of your letter of Sep. 1 by Gent and Mrs Dearborn, and by the evidence it furnished me of your bearing up with firmness and perseverance against ~~the~~ the persecutions of your enemies religious, political and professional. These last I suppose have not yet forgiven you the introduction of vaccination, and annihilation of the great venereal field of profit to them: and none of them pardon the proof you have established that the condition of man may be ameliorated if not improved, as enthusiasm alone pretends, yet undoubtedly, as bigotry alone can doubt. In lieu of these enmities you have the blessings of all the friends of human happiness, for this great peril from which they are rescued.

I have read with pleasure the orations of Mr. Holmes & Mr. Weston. From the former we always expect what is good; and the latter has by this specimen taught us to expect the same in judging from him. Both have set the valuable example of quitting the beaten ground of the revolutionary war, and making the present state of things the subject of annual animadversion and instruction: a copious one: it will be and highly useful if properly improved. Collet, address would of itself have mortified and humbled the Cossack priests; but brother Jonathan has pointed his arrow to the hearts of the worst of them. These & several leaders of the Hartford ^{convention} nation it seems then are now falling together about religion, of which they have not one real principle in their hearts. Like baubles, religion becomes to them a refuge from the despair of them ^{at} themselves. Once they seek it only an oblivion of the disgrace with which they have loaded themselves, or their political raving; and of their mortification at the ridiculous issue of their Hartford convention. no word more than this.

*" Life and Letters of John Doubleday Jefferson, London, 1887."

has shown the placid character of our constitution under any other their treasons would have been punished by the halberd we let them live as laughing stocks for the world, and punish them by the torment of eternal contempt. — the emigrations you mention from the Eastern states are what I have long counted on. the religious & political tyranny of those in power with you, cannot fail to drive the oppressed to milder associations of men where freedom of mind is allowed in fact as well as in pretence. the subject of their present clamours and caterwaulings is not without it's interest to rational men. the priests have so disfigured the simple religion of Jesus that no one who reads the sophistications they have engrafted on it, from the jargon of Plato, of Aristotle & other mystics, would conceive there could have been fathered on the sublime preacher of the sermon on the mount. I feel, knowing the importance of names they have assumed that of Christians, while the true Platonists, or any thing rather than disciples of Jesus. one of the has beginning now to strip off these meretricious trappings; they follow may take courage to make thorough work, and restore to us the figure on it's original simplicity and beauty. The effects of this squabble therefore, whether religious or political, cannot fail to be ^{so} good in some way.

The visit to Monticello, if strict you hold up an idea, would be a favor indeed of the first order: I know however the obstacles of age & distance, and should therefore set due value on it's precarious execution, should however or curiosity, lead a son of yours to visit this Sodom and Gomorrah of persons bigoted, Parish & Gardener. Accept my wishes for your health and happiness, and the assurance of my great esteem & respect

Th. Jefferson

The following is the letter with which Jefferson transmitted that supply of virus to Dr. Coxe, of Philadelphia, which, as before intimated, inaugurated vaccination in that city. It is reprinted from Waterhouse's book into which it was copied from Dr. Coxe's "Practical Observations on VACCINATION, or inoculation for the Cow-Pock, Philadelphia, 1802. Page 120, et seq."

“WASHINGTON, Nov. 5th, 1801.

“*Dear Sir*:—I received on the 24th ult., your favor of the 22d, but it is not till this day that I am enabled to comply with your request of forwardingsome of the Vaccine matter for Dr. Coxe. On my arrival at Monticello in July, I received from Dr. Waterhouse, of Cambridge, some vaccine matter taken by himself, and some which he at the same time received from Dr. Jenner, of London. Both of them succeeded, and exhibited precisely the same aspect and affection. In the course of July and August, I inoculated about seventy or eighty of my own family; my sons in law about as many in theirs, and including our neighbors who wished to avail themselves of the opportunity, our whole experiment extended to about two hundred persons. One only case was attended with much fever and some delirium; and two or three with sore arms which required common dressings. All these were from accidents too palpable to be ascribed to the simple disease. About one in five or six had slight feverish dispositions, and more perhaps had a little headache, and more of them had swelling of the axillary glands, which in the case of adults disabled them from labor one, two or three days. Two or three only had from two to half a dozen pustules on the inoculated arm, and no where else, and all the rest only the single pustule where the matter was inserted, something less than a coffee-bean, depressed in the middle, fuller at the edges, and well defined. As far as my observation went, the most premature cases presented a pellucid liquor the sixth day, which continued in that form the sixth, seventh, and eighth days, when it began to thicken, appear yellowish, and to be environed with inflammation. The most tardy cases offered matter on the eighth day, which continued thin and limpid the eighth, ninth, and tenth days. Perceiving therefore that the most premature as well as the tardiest cases embraced the eighth day, I made that the constant day for taking matter for inoculation, say, eight times twenty-four hours from the hour of its previous insertion. In this way it failed to infect in not more I think than three or four out of the two hundred cases. I have great confidence, therefore, that I preserved the matter genuine, and in that state brought it to Dr. Gantt, of this place, on my return, from whom I obtained the matter I now send you, taken yesterday, from a patient of the eighth day. He has observed this rule as well as

myself. In my neighborhood we had no opportunity of obtaining Variolous matter, to try by that test the genuineness of our Vaccine matter; nor can any be had, or Dr. Gauntt would have tried it on some of those on whom the Vaccination has been performed. We are very anxious to try this experiment, for the satisfaction of those here, and also those in the neighborhood of Monticello, from whom the matter having been transferred, the establishment of its genuineness here will satisfy them. I am, therefore, induced to ask the favor of you to send me in exchange, some fresh Variolous matter, so carefully taken and done up, as that we may rely on it; you are sensible of the dangerous security which a trial with effete matter might induce. I should add that we never changed the regimen nor occupations of those inoculated; a smith at the anvil continued in his place without a moment's intermission, or indisposition. Generally it gives no more of disease than a blister as large as a coffee-bean produced by burning would occasion. Sucking children did not take the disease from the inoculated mother. These I think are the most material of the observations I made in the limited experiment of my own family. In Aikin's book which I have, you will find a great deal more. I pray you to accept assurances of my esteem and respect.

(Signed)

THOS. JEFFERSON.

"Mr. JOHN VAUGHAN."

This paper has reached a far greater length than the writer had intended. It is quite possible that his own interest in the incidents it very imperfectly indicates and relates may not exist in the minds of many of his readers. If so, it is, on all accounts, much to be regretted.

In conclusion, it is worthy of remark how very completely the mission of Waterhouse was accomplished. Through his *direct* means vaccination was introduced not only in Boston but in a very large proportion of the other cities and towns of America. Those not *directly* supplied with their first *efficient* virus by Waterhouse obtained it through the agency of Jefferson. It is by no means too much to say that Waterhouse and Jefferson were the two men to whom the *introduction* of vaccination in America was *wholly* due. However actively many, as Cox, Seaman, Scofield, and others, labored, none ever even nearly approached these two in the success

with which they propagated perfect vaccine virus, and, directly or indirectly, supplied every considerable city and town of North America, not only with their *first* efficient lymph but, over and over again, with fresh supplies when, as repeatedly happened through ignorance, neglect, or, more frequently, malpractice (mainly the result of following Coxe's teachings, and collecting virus after the appearance, even after the *decline*, of the *areola*) the precious *contagium* was lost. It is, of course, not possible here to detail the facts on which this broad assertion is based. Enough that it is not rashly made, but as the result and outcome of careful study of data quite sufficiently full although not accessible without difficulty. Let the assertion stand as one. When possibly it may come to be disputed, it shall be proven.

This remarkable and unique success was not due to Waterhouse, and from him Jefferson, being the sole recipients of supplies of virus from England. To very many others, societies as well as individuals, ample supplies from Jenner and many of his earliest English disciples were repeatedly sent, but no record of any authenticity has been discoverable that any but Waterhouse and Jefferson succeeded in perpetuating VACCINA of a perfectly normal type such as alone could afford *virus* fit to be used in vaccination. The simple solution of this remarkable and quite exceptional success is to be found in the fact that Waterhouse was a true and faithful disciple of Jenner, that Jefferson was equally loyal to the MASTER and that both religiously observed his "golden rule"; while the practice of a very large proportion of American physicians was unfortunately influenced by teachings which criticised and even ridiculed that rule; teachings which have not, even yet, fulfilled all their mission of evil and injury to the cause of vaccination in America.

SELECTED PAPERS.

REPORT ON THE ACTION OF ANÆSTHETICS TO THE SCIENTIFIC GRANTS COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION.

Every attempt to shed new light on the action of anæsthetics is welcomed with interest by the medical profession. Notwithstanding the fact that individual practitioners have already settled down to their own convictions about the dangers of the different substances in use, new investigations are always read and discussed as though the subject were fresh. Not long ago the Louisville *Medical News* presented some excellent editorials on anæsthetics which we considered valuable enough to reproduce for the benefit of our readers, and we have knowledge that they were received with marked approbation. This time we present our readers with a synopsis of the *Report of the British Medical Association*, a report that has been looked forward to with an earnest expectation of good things, for some time. Whether our readers will think it important they must themselves judge after perusing the account we give.

In conducting the investigations the reporters say: "two lines of inquiry soon opened themselves to us: first, to discover where— in the special dangers of chloroform consist; and, second, to try if some anæsthetic agent could be found which would avoid these dangers. We also kept in view the investigation of the physiological action of anæsthetics in general and the collection of evidence from the profession regarding the value and dangers of the anæsthetics at present in use."

In the first of these lines of inquiry, the much vexed question of the effects of chloroform on respiration and the heart presented itself. Without going into detail, we may say that it soon became apparent to us that chloroform, administered to dogs and rabbits, has a disastrous effect on the respiratory centres; it is easy to kill one of these animals by pushing the chloroform till respiration is paralyzed. In observing the state of the heart during these experiments, it could often be determined by auscultation that its contractions were maintained after respiration had ceased. It was apparent, however, that, even when failure of respiration was more

directly the cause of death, the heart was to some extent simultaneously affected ; and there were even cases in which the heart appeared to fail at least as soon as, if not before, the breathing. Considering these facts, and bearing in mind that failure of the heart is often asserted in the reports of death from chloroform, we devised a method of experimentation by which respiration would be eliminated, and the effects of chloroform on the heart observed apart from that complication.

After many experiments upon frogs and warm-blooded animals the following conclusions were reached :

It was obvious, therefore, that, apart altogether from its action on the respiratory centres, chloroform has a disastrous effect on the heart, while ether has no baneful influence. While presenting in this respect an enormous advantage over chloroform, it was yet apparent, however, that ether has some great disadvantages. The chief of these is the tardiness of its action. In comparative experiments with rabbits, in which the anæsthetics were given on a towel, it appeared that, with chloroform, complete anæsthesia was produced in about three minutes ; while, in the case of ether, it took fifteen to twenty minutes to produce this effect, although the cloth was kept saturated. It occurred to us, therefore, to endeavor to find an agent which should be as potent an anæsthetic as chloroform, and yet affect the heart and respiration as little as ether.

Although *Benzine*, ($C_6 H_6$), *Acetone*, ($C_3 H_6 O$), *Pyrrol*, ($C_4 H_5 N$), *Bichloride of Methylene*, (reported formula ($CH_2 Cl_2$)), *Amylene*, ($C_5 H_{10}$), *Butyl chloride*, ($C_4 H_9 Cl$), *Ethene dichloride*, ($C_2 H_4 Cl_2$), *Methyl chloride*, ($CH_3 Cl$), *Ethyl chloride* ($C_2 H_5 Cl$), *Nitrous ethyl ether*, ($C_2 H_5 NO_2$), *Isobutyl chloride*, ($C_5 H_9 Cl$), and *Ethidene dichloride*, ($C_2 H_4 Cl_2$) were all used, the crucial test of the experiments were directed to the chief substances ether and chloroform.

SUMMARY.

From the observations recorded, we feel warranted in drawing the following conclusions :

A.—CLINICAL.

1. The dose (administered on a towel) is greater with ethidene than chloroform ; but the time necessary to anæsthetise the patient is longer with the latter than the former agent.

II. The number of cases of sickness and vomiting is about the same with the two agents, but the duration is considerably protracted in the case of chloroform; the occurrence of these symptoms have no relation to the length of time the patient has been under, or reference to the quantity of anæsthetic administered in a given time.

III. With both agents, the pulse-respiration ratio is considerably altered in a certain number of cases, the pulse falling as the respirations increase in frequency. With chloroform, this change is not only much more marked, but its occurrence is also more frequent than with ethidene; the proportion in our experience, being nine of the former to two of the latter. There is also a greater tendency in cases of chloroform to retardation of the heart's movements, and to dirotism.

B.—PHYSIOLOGICAL.

I. The effect of anæsthesia with chloroform is to increase the amount of carbonic acid exhaled in a given time. The results of our investigations, in connection with the effects of anæsthetics on the gases of the blood, are not sufficiently reliable to permit us to give results.

II. Both chloroform and ethidene, administered to animals, have a decided effect in reducing the blood-pressure; while ether has no appreciable effect of this kind.

III. Chloroform reduces the pressure much more rapidly, and to a greater extent than ethidene.

IV. Chloroform has sometimes an unexpected and apparently capricious effect on the heart's action, the pressure being reduced with great rapidity almost to *nil*, while the pulsations are greatly retarded, or even stopped. The occurrence of these sudden and unlooked-for effects on the heart's action seems to be a source of serious danger to life—all the more that, in two instances, they occurred more than a minute after chloroform had ceased to be administered, and after the recovery of the blood-pressure.

V. Ethidene reduces the blood-pressure by regular gradations, and not, so far as observed, by these sudden and unexpected depressions.

VI. Chloroform may cause death in dogs either by primarily paralyzing the heart or the respiration. The variations in this

respect seem to depend to some extent on individual peculiarities of the animals ; in some the cardiac centres are more readily affected, in others the respiratory. But peculiarities in the condition of the same animal very probably have some effect in determining the vulnerability of these two centres respectively ; and they may both fail simultaneously.

VII. In most cases, respiration stops before the heart's action ; but there was one instance in which respiration continued while the heart had stopped, and only failed a considerable number of seconds after the heart had resumed.

VIII. The use of artificial respiration was very effective in restoring animals in danger of dying from the influence of chloroform. In one instance its prolonged use produced recovery even when the heart had ceased beating for a considerable time.

IX. Under the use of ethidene, there was on no single occasion an absolute cessation either of the heart's action or of respiration, although they were sometimes very much reduced. It can, therefore, be said that, though not free from danger on the side of the heart and respiration, this agent is in a very high degree safer than chloroform.

X. In regard to the effect of anæsthetics upon the pulmonary circulation, as in the experiments on the effects of the anæsthetics upon the blood-pressure, it may be stated that chloroform produces the most immediate effect, ether the least, whilst ethidene occupies an intermediate position.

XI. The quantity of air, and the length of time required to restore the circulation in the lung, are in an inverse ratio to the amount of anæsthetic vapor, and time necessary to stop it.

XII. The changes produced in the lung are the same in all ; the only difference being in the rapidity of their occurrence.

XIII. The anæsthetics produce the following changes in the lungs : (1) retardation and ultimate stoppage of the circulation in the lung ; first, in the capillaries, then in the arteriole, and subsequently in the larger vessels ; (2) the epithelium-cells of the meshes and their nuclei are no longer apparent ; (3) the capillaries contract slightly, and their walls become less distinct, or even disappear from view, and the enclosed corpuscles may become more or less disintegrated.

XIV. The effect of ether and ethidene upon the heart, after artificial respiration for seven and five minutes respectively, is simply to produce a retardation of the impulses—ethidene having the most marked effect. Chloroform not only produces a retardation of the pulse, but the ventricular contractions are delayed and slightly separated from the auricular, and an auricular contraction may immediately follow the ventricular. The auricular contractions frequently occur without any corresponding ventricular movements.

C.—PRACTICAL.

The conclusions to be drawn from the above observations are these :

I. It is not only necessary to watch the effect of the anæsthetic upon the pulse, but it is also requisite to have regard to the respiration. We must not only take into account the danger of sudden stoppage of the respiration, but must also remember that, in the event of abnormal increase of respiratory movements, it may become essential, for the safety of the patient, to temporarily discontinue the administration.

II. Owing to the tendency of chloroform and ethidene—particularly chloroform—to reduce the blood-pressure suddenly, not only during the administration of these agents, *but also after they have been stopped for some little time* (a source of serious danger), it is necessary for the person who has charge of the administration of the drug to be on the lookout for symptoms of this occurrence, both during the time the agent is being given, and for some time after the patient has recovered from its more evident effects.

III. The danger of death, from stoppage of the respiratory functions, must be borne in mind in every case in which anæsthetics are given ; but, of perhaps greater importance is the danger from interference with the proper action of the heart—particularly when it is remembered that, by artificial means, we can combat the former contingency. It might even be advisable, in certain cases, to introduce a tracheal-tube by the mouth—so as to enable us to force air into the lungs by means similar to those adopted in experiments with the same object in view. Artificial respiration should be continued, even though all evidence of cardiac action has ceased.

IV. As regards comparative danger, the three anæsthetics may be arranged after the following order : chloroform, ethidene, ether ;

and the case with which the vital functions can be restored may be conversely stated, thus : the circulation is more easily reëstablished when its cessation is due to ether than to ethidene ; and when the result of ethidene, than when chloroform has been used. The advantages which chloroform possesses over ether—in being more rapid in its action, in the complete insensibility produced by it, and the absence of excitement or movements during the operation—are more than counterbalanced by its additional dangers.

V. The chief dangers are : (1) sudden stoppage of the heart ; (2) reduction of the blood-pressure ; (3) alteration of the pulse-respiration ratio ; and (4) sudden cessation of the respiration. The danger with ether approaches from the pulmonary rather than from the cardiac side—so that, by establishing artificial respiration, we have a means of warding off death. Its disadvantages are, to a great extent, obviated by the use of ethidene ; whilst the dangers of chloroform are also reduced to a minimum.—*The British Medical Journal*.

WHO FIRST DESCRIBED MALARIAL PUERPERAL FEVER ?

Some correspondence has appeared in the *Virginia Medical Monthly* upon the above topic. Dr. Hugh M. Taylor claims that the malarial puerperal fever was first discovered by Dr. O. F. Manson, twenty-five years ago, in the *Virginia Medical and Surgical Journal*. Regarding this claim Dr. Theophilus Parvin writes : “So far, so well. But were there not heroes before Agamemnon ?” He then gives quotations from various old works tending to show that as early as 1775 Dr. Butler wrote upon the disease in question ; that in 1824 Dr. Blundell, and in 1828 Dr. Burns did the same thing. Dr. Parvin also states that the malady had long been recognized by old practitioners in the West.

In reply to Dr. Parvin, Dr. Taylor reasserts his claims for Dr. Manson, and analyzes the alleged descriptions of the disease by older writers. On the whole, he makes out a pretty strong case for Dr. Manson. Puerperal malarial fever may have been known and treated before 1855, but Dr. Manson seems to have been the first to describe it distinctly.

REVIEWS AND BOOK NOTICES.

PHOTOGRAPHIC ILLUSTRATIONS OF CUTANEOUS SYPHILIS. By GEORGE HENRY FOX, A. M., M. D. Clinical Lecturer on Diseases of the Skin. College of Physicians and Surgeons. New York, &c.

The illustrations in this work will comprise forty-eight plates colored from life. This is the prominent feature of the work. The illustrations are artotypes done by Harroun and Bierstadt, and are colored by hand. Those of our readers who were subscribers to the "Photographic Illustrations of Diseases of the Skin" by the same author, will know how to value the illustrations in the present series, when we say that the improvement here has been great, notwithstanding the former work exceeded all expectations when it was issued.

We have before us Parts I, II, III, containing plates of the following subjects: Two of *Syphiloderma Erythematosum*; plate 3, two figures post-syphilodermic pigmentation and achromia; plate 4, *Syphiloderma Erythematosum*, plate 5, Papulous syphiloderm; plate 6, Syph. papulosum miliare; plate 7, Papulo-squamous syphiloderm in two figures; plate 8, Papulous syphiloderm; plate 9, Circinate papulous syphiloderm; plate 10, Papulo-squamous syphiloderm; plate 11, Papulo-pustulous syphiloderm; plate 12, Pustulous syphiloderm.

Reference to the contents of future numbers gives promise of a valuable series.

The text of the work deserves some comments.

We are glad to see that Dr. Fox, properly values the teachings of the old syphilographers. We do not think as a clear a conception of the subject can be gained in any way as well as by reviewing the teachings of John Hunter, and others, in connection with the writings of the modern masters. "While it may be pardonable," Dr. Fox says, "to smile at their blunders, or to shudder at the cruel treatment imposed upon those whom they strove to benefit, let us not forget to accord them a tribute of gratitude for our indebtedness, and to think, and to speak of them with reverence which is befitting the grandeur of their achievements."

The second Chapter is devoted to the "Examination of Patients."

In regard to the alleged universal mendacity of syphilitic patients, he says: "I do not share in the common opinion that the statements of syphilitic patients are untrustworthy by reason of a desire on their part to deceive or withhold the truth. Their statements are untrustworthy because the patients, in the majority of cases, are ignorant of the fact that they have contracted syphilis, even when they know that they have been exposed. Some physicians declare that a pathognomonic sign of syphilis is the fact that the patients will lie. This is witty but by no means true. Patients affected with syphilis have nothing to gain by lying to their physician, and, in my experience, they evince little disposition to do so." Notwithstanding this plea for them, we are assured that the old opinion still holds. Men will lie out of a difficulty which affects their standing among their fellows, and which affects their pockets. We know that syphilitic sailors of foreign nations dodge the truth, because syphilis being proved they are made to pay for medical services. We know that it is rare to hear the confession of a negro patient on the subject of syphilis in his own person. We know that a candid statement from a sailor, a negro, a man or a woman, be who they will, is a thing of rarity. But it does not matter who is right on this point, the lesson after all is, trust to what you see rather than the history the patient details to you.

Chapter IV treats of the General Characters of Syphilitic Eruptions. The favorite location of various eruptions. The distinction as to the disseminate character of the eruption in the early stages, bearing a close resemblance to acute eruptive fevers, and the tendency of the individual lesions to dispose themselves in the crescentic or circular manner in the later forms.

The color of syphilitic eruptions according to Dr. Fox, is not a well settled guide. "The term 'copper-colored', which has long been freely used in connection with the syphilitic eruptions, is really a term which conveys no definite idea to the majority of minds. * * * * The term, indeed, is not of the slightest value as a descriptive objective and might be advantageously dropped. No one ever notes a coppery color in an eruption, until its syphilitic nature is suggested by some more marked characteristic of the disease. Then the spots may suddenly assume a coppery hue, simply because the older books, as a rule, have taught, or led one to infer,

that syphilitic eruptions are, or should be, copper-colored. * * * *
 The most 'coppery' eruption which I have noted has been in the large papulo-squamous syphilide, but the very same hue I have sometimes seen in an acute guttate or nummular psoriasis." * * *
 "Of all the characteristic features of cutaneous syphilis, the color is one of the least important from a diagnostic point of view."
 Page 23.

Having traversed the general characters of syphilitic eruptions, our author administers the following: "It is not uncommon for certain physicians who find themselves in the utter darkness of doubt as to the nature of a suspected eruption to settle the whole question to their own satisfaction, by saying: 'Well, it may be psoriasis, or lupus, or this or that, but it is undoubtedly more or less modified by the syphilitic diathesis.' This is a convenient way of hedging one's diagnosis so that in whatever way the case may turn out the non-committal diagnostician is able to remark, 'That was the opinion, you will remember, which I expressed when called to see the case.' Now an eruption is always syphilitic or it is not syphilitic, and there is no exception to this rule, unless we make one in those cases in which the most experienced students of cutaneous lesions is forced to confess, as he must do occasionally, his inability to decide the point." Page 25.

We esteem this work a valuable addition to the literature of syphilography, but more especially will it be valued as a practical guide to correct diagnosis for general practitioners.

A PRACTICAL TREATISE ON SURGICAL DIAGNOSIS, DESIGNED AS A MANUAL FOR PRACTITIONERS AND STUDENTS. By AMBROSE L. RANNEY, A. M., M. D. Second Edition. Enlarged and Revised. New York: Wm Wood & Co., 27 Great Jones Street. 1880. Pp. 471.

This book was printed at the request of Dr. Ranney's private classes. He has endeavored to make plain questions of difficult diagnoses for the use of students, and practicing physicians. He has omitted all questions of etiology, pathology and treatment, purposely, as they have no direct bearing on diagnosis.

We have had this volume before us for some weeks, and have had occasion to consult its pages with profit. It is plainly written and

beautifully printed, and will grow in favor as it is better known. It is arranged for easy reference, many diseases being printed in double columns, to show at a glance the differentiation.

The following is a fair example :

DISLOCATIONS OF THE FEMUR AT THE HIP-JOINT.

POSITION OF THE LIMB.

" DORSUM ILII."

The large toe of the affected side rests upon the opposite *instep*.

" SCIATIC NOTCH."

The large toe of the affected side rests upon the opposite *large toe*.

POSITION OF THE TUMOR.

An abnormal tumor is felt plainly on the posterior portion of the ilium.

An abnormal tumor is very distinctly perceived posteriorly, and in fat subjects it is often not detected.

SHORTENING.

Shortening of the limb is *marked*.

Shortening of the limb is *slight*.

INVERSION OF THE FOOT.

The foot is markedly inverted.

The inversion of the foot is of moderate extent.

DEFORMITY AT THE HIP.

The deformity at the hip is very apparent.

The deformity of the hip is slight often scarcely perceptible.

FLEXION OF THE THIGH.

The flexion of the thigh upon the pelvis is slightly marked.

The thigh is markedly flexed upon the pelvis, and attempts at extension of the thigh produce an arching of the back.

SYMPTOMS IN COMMON.

Both are associated with displacement upwards of the fold of the nates.

" " " " shortening of the limb.

" " " " inversion of the foot.

" " " " displacement of the trochanter.

" " " " impaired voluntary motion.

" " " " impossibility of abduction of the limb.

" " " " " " outward rotation of the limb

" " " " flexion of the thigh upon the pelvis.

" " " " " " " leg " " thigh.

YELLOW FEVER: ITS SHIP ORIGIN AND PREVENTION. By ROBERT B. S. HARGIS, M. D. Pensacola, Florida. D. G. Brinton, M. D., Publisher. Philadelphia: 1880. Pp. 76—V.

This volume is a reprint of two papers which formerly appeared in medical journals, with some additions. The author is now firm

in his convictions of the ship origin of yellow fever, although formerly he followed his master, Dr. Stone, of New Orleans, in believing in its indigenous origin in certain sections.

The report of the Havana Yellow Fever Commission of the National Board of Health is freely discussed.

Dr. Hargis makes this declaration: "If I know anything in medicine—if there be any medical truth which I have grasped by searching methods of careful study—it is that, year by year, a fresh crop of poison springs from foul vessels sailing in the tropical Atlantic, and from such infected ships, or their contents, and others infected directly and indirectly by them, the country can be protected without onerous restrictions on commerce."

Time will show how much reliance is to be placed in this theory, but at present we fear it is too good to be true.

PUBLIC HEALTH REPORTS AND PAPERS. Volume V. Presented at the Meetings of the American Public Health Association of the Year 1879, with an Abstract of the Record of the Proceedings. Boston: Houghton, Mifflin & Co. The Riverside Press. Cambridge. 1880. Pp. 256.

These volumes issued by the American Public Health Association are too little known outside of the membership of this body. From the very first nothing but the best material has appeared in them which in "style of publication have taken the first rank, and have been regarded as models of typographical excellence."

Of the present volume we wish to write more particularly, for we could in no better way acquaint our readers with the character of the work of the American Public Health Association.

Dr. Stephen Smith, of New York, contributes the "History of the Association," for although only dating its birth in 1872, it has an eventful history. Dr. Smith relates the small beginnings of sanitary movements in this country, which took a permanent shape by organization in New York in 1872.

"In the plan of organization the membership was selected by the Association, and not made up by representatives from existing voluntary bodies, or civil or sanitary authorities. This method of securing members renders the membership very select. The candidates are required to have an "acknowledged interest in, or

devotion to, sanitary studies and allied sciences, and to the practical application of the same." Although a society thus constituted must have a limited attendance at its meetings, yet the quality and quantity of its work is necessarily greatly enhanced. This fact is noticeable in the uniformly highly scientific and practical character of the papers presented and discussed."

From small but influential beginnings, the list of membership in 1879 had mounted up to six hundred, including nearly all persons connected with the progress of sanitary reform in the Union.

The first regular contribution at the meeting in Nashville in 1879, is the annual address of the President, Dr. J. L. Cabell. In this address we get a full and comprehensive idea of the great sanitary achievements which have been accomplished since the impulse given at the Richmond meeting of the American Public Health Association in 1878. The great epidemic disaster of 1878 was the force which brought the Association into such importance, and that made the National Board of Health possible. Dr. Cabell gives a circumstantial narration of the history of the formation of the National Board of Health from the now historical meeting of the Advisory Committee in parlors of the National Hotel in Washington in January, 1879, to the formation of the National Board, and from this date through all the great battles against epidemics and public opinion since. The work here sketched of itself, would establish the reputation of the gentlemen engaged in it, if the particular details did not more fully set forth their claims, and when we remember that this was all initial work, without precedent, original and vast, our admiration increases with a knowledge of its extent and thoroughness.

The article on "City Scavengering at Boston," by Eliot C. Clarke, C. E., gives an account of how such work of scavengering is done in Boston. Here we have some useful lessons, taught by experience in a city where it is thought to be done better than in any in this country. This is followed by an article on the same subject by Rev. Dr. Thompson, of New Orleans. Humble as this subject may be, and distasteful, it lies at the basis of sanitary management in cities, villages or hamlets, and it is gratifying to see it taken in hand by such eminent citizens.

Col. George E. Waring, Jr., contributes a paper on the "Sewering

and Draining of Cities," describing the system as adopted in Memphis, under his direction, and it will be read with profit by the health officers of those cities and towns contemplating the construction of a sewerage system.

The sixth paper is by Dr. E. G. Janeway and is entitled, "Remarks upon the Necessity of Filing in a Public Office of Plans and Statements about Certain Matters of House Construction." "Upon the Study of the Origin of Contagious Diseases, and their Liability to Error in this Direction." "Upon the Necessity for Uniformity in the Publication of Vital Statistics."

"On the Protection of the Innocent and Helpless Members of the Community from Venereal Diseases and their Consequences," by Albert L. Gihon, A. M., M. D., has a supplement in the Transactions of the National Board of Health in New Orleans in 1880, and we will mention it elsewhere.

Dr. Edward G. Janeway's paper on "Post-Mortem Examinations in Relation to Public Health," contains suggestions of the most important character. The aim of his article is to show the value of post-mortem examinations to sanitary science, and he goes still further. There is hardly a conscientious practitioner, who having had the opportunity to make a post-mortem examination, did not feel the great importance of making them oftener and more thoroughly. The medical press should agitate this matter until the profession is brought to educate the people up to the necessity of frequent post-mortem examinations. How can the general practitioner hope to keep fresh in his mind even coarse pathological appearances, when he almost never has recourse to the dead body as a teacher? How can the physician be always tolerably satisfied with his diagnosis without now and again confirming or correcting them by post-mortem appearances? All of us who have anything to do with the direction of vital statistics know that some of the apparently most scientific statements of death are without adequate foundation. We hope that the doctors everywhere will keep trying until the people will be led to demand that the study of the diseases of their friends and relatives shall be pursued to the legitimate end. Many times physicians are to blame for assuming to know thoroughly the nature of diseases in individual cases, when really the assumption is only to secure the confidence of the patient's friends.

But to return to our Transactions.

The remainder of the volume is devoted to Yellow Fever and Quarantine from several well known writers, and they all deserve mention but our space forbids.

HOW TO USE THE FORCEPS. With an Introductory Account of the Female Pelvis and of the Mechanism of Delivery. By HENRY G. LANDIS, A. M., M. D. Professor of Obstetrics and Diseases of Women and Children in the Starling Medical College. Illustrated. New York: E. B. Treat, 757 Broadway. 1880.

Twenty years ago it would not have been difficult to have found many respectable practitioners in full practice who had never used obstetrical forceps, and among that number some who considered the employment of forceps, following the dictum of the venerable Blundel, as meddling midwifery of the worst sort. To-day the best masters of the art of obstetrics teach with great earnestness their proper use, and our medical literature abounds with able articles on the subject.

The book before us treats in its first section of the anatomy of the pelvis illustrated with diagrams. The second section of the propelling forces, that is the forces concerned in the propulsion and guidance of the child. The third section discusses the body to be propelled, and the fourth and most important on the mechanism of labor.

The last division of this little book takes up how and where to use the forceps. The subjects are clearly presented in every aspect. A clear and forcible argument is made for a proper use of the forceps. One paragraph will suffice to show the author's bearing.

"Whenever the second stage of labor has lasted two hours and the head is still stationary or advancing with great slowness, we should inform the patient that we are about to apply the forceps. If we explain the necessity and propriety of the operation we will rarely find any objections, especially if the woman is already tired of her fruitless suffering! This rule may be deviated from according to the circumstances of each case, but it will more often be proper to shorten it than to protract the time of giving relief. There is no need of keeping the woman in suffering for hours solely that she may deliver herself, and still less for keeping her under the noxious influence of an anæsthetic for hours, when we can safely extract the child at will." Page 154.

OPHTHALMIC AND OTIC MEMORANDA. By D. B. ST. JOHN ROOSA, M. D., and EDWARD T. ELY, M. D. Revised Edition. New York: Wm. Wood & Co. 1880. Pp. 298.

This little work has been of good service during its short existence. It has served as a remembrancer to students and a lexicon of terms in use in the specialty of diseases of the eye and ear. It has not been very many years ago, only before the war, that the lecturer on surgery in the best colleges in the land did not give a large fraction of what may be found in this little volume. We know that now, many of the elders in practice find what they want to know about diseases of the eye and ear in it, and often take the first steps in diagnosis from its guidance.

CUTANEOUS AND VENEREAL MEMORANDA. By H. G. PIFFARD, A. M., M. D., and GEORGE HENRY FOX, A. M., M. D. Second Edition. New York: William Wood & Co. Pp. 309.

To give the principles of diagnosis of skin diseases in the small compass of part of a duodecimo volume of three hundred pages is not to be expected. This little work was written to supply students not able to purchase the more costly volumes on the subject. We advise our readers to examine for themselves and see how masters of the art of teaching dermatology and syphilology can come down to the comprehension of students.

It is useless for us to grumble and say that medical students should not need such books, because their elementary preparation should be more thoroughly provided for; the truth is, medical students have for a long time demanded "quiz" books. And the Confederate surgeon's memory must be very short, who does not remember the fabulous sum he paid for Neil & Smith's "Compend" just before his examination by the army board. Until medical students are required to aim higher, we are glad to see that their manuals are prepared by writers who themselves are teachers in medical schools.

An Exomphalous monster was recently delivered in Wilmington, that lived twenty-four hours or more. The abdominal viscera were extruded. The small intestines were abnormally short. The bowels were moved very naturally.

TRIPLETS WITH TEETH.

We are indebted to Dr. Wm. J. Love for the following notes of unusual triplets, born in Wilmington in December :

Mrs. Black gave birth to triplets on 11th between Chestnut and Mulberry Streets. This was her second confinement and second pregnancy. She is a North Carolinian aged 45 years.

The presentations were all of the head, the labor was natural. Two of the children were girls, one a boy.

The first girl weighed $4\frac{1}{2}$ lbs. She had *two middle upper incisors* and *two upper canines*, and lived five hours.

The second girl weighed 5 lbs. She had *two middle upper incisors* and *left upper canine*, and lived five hours.

The boy weighed $6\frac{1}{2}$ lbs. He had *four upper incisors* and *two upper canines* nearly through. He lived five hours.

A NEW HOSPITAL IN WILMINGTON.

The Legislature now in session has passed a bill which empowers the city and county to erect and sustain a hospital, conjointly. This movement has been on foot a long time, and would have been consummated earlier, but for the bad repute which the old hospital system had entailed upon the effort. The matter was strongly and successfully urged by the New Hanover Board of Health, and Medical Association, and the intelligent appreciation of the situation by the Chairman of the County Commissioners, Col. W. L. Smith, who is also President of the Board of Health, brought about its successful issue.

We are satisfied that the much needed hospital will be constructed on sound sanitary principles. There is one thing certain, it will not be a harbor for tramps, but only an asylum for those who are entitled to it. It has been the case heretofore, that the sick from other counties have often times been driven from their homes in the country, along the lines of the rail road, because they were burdensome to the people or the corporations in which they lived ; this abuse is to be strictly guarded against. We have every reason to believe that this movement has opened a way to the possibility in the near future, of having suitable pay-wards for persons seeking surgical treatment here, and it also opens the way to a plan suggested some months ago, to the endowment of beds, annually by the congregations of the various churches in the city.

NOTES.

Brown-Séguar's Discovery.—The great physiologist has discovered the local anæsthetic influence of chloroform when applied to the skin. The clinical discovery of the same fact is a long ways in advance.

Popular Science Monthly, for December is most interesting, and fully sustains the high standing it has attained in the later years of its publication. Begin your subscriptions with the coming year. Price \$5.00 a year. Address D. Appleton & Co.

We call attention to a handsome pamphlet by Dr. J. W. Holland's "Diet for the Sick," 12mo., paper. Price 25 cents. John P. Morton & Co., Louisville. It contains, also, numerous receipts, and the special diet required in a number of particular diseases is detailed. The author is Professor of materia medica in the University of Louisville, and writes as if he had bestowed careful study on the subject of which he treats.

Vick's Floral Guide.—This work is before us, and those who send 10 cents to James Vick, Rochester, N. Y., for it, will not be *disappointed*. Instead of getting a cheap thing, as the price would seem to indicate, they will receive a very handsome work of 112 pages, and perhaps 500 illustrations—not cheap, but elegant illustrations, on the very best of calandered paper, and as a set off to the whole, a beautiful Colored Plate that is worth twice the price of the book.

On the Digestive Power of Figs.—In the *Comptes Rendu*, XCI, Prof. Bouchut speaks of some experiments he has made, going to show that the milky juice of the fig tree possesses a fermentative power of a digestive character. Having mixed some of it with a preparation from animal tissue, he found the latter well preserved at the end of a month.

We bring this fact into connection with a remarkable statement by Prof. Billroth, in his work on "Frauenkrankheiten." He tells of a case of cancer of the breast so excessively foul smelling that all his deodorizers failed, but on applying a poultice made of dried figs cooked in milk, the previously unbearable odor was entirely done away with.

The American Medical Bi-Weekly.—This *Journal*, which was formerly published in Louisville, Ky., and which had nearly reached the close of the eleventh volume when the severe and protracted illness of the Editor compelled its temporary discontinuance, is now, on his entire recovery, restored to its position among the Medical Journals of this country. The Editor, Dr. E. S. Gaillard having made his home in New York, the *Bi-Weekly* is now published there. The first number of volume twelve has been received. It is now a double column Medical Journal, larger than the old *Bi-Weekly*, and is published at \$1.00 a year; the former terms being \$3.00. The *Bi-Weekly* is with pleasure again placed upon the Exchange list. Its address is Box 1124, N. Y. City.

To Terminate the Chloroform Narcosis.—A peculiar device is mentioned by Schirmer in the February number of the *Centralblatt f. Augenheilkunde*. He claims to have used it in his clinic for many years, and often succeeded in producing inspiratory movements when other means failed. He also employed it to induce rapid recovery, for instance in strabismus operations, in order to test the result. The method consists in irritating the nasal mucous membrane. It has long been known, at least to physiologists, that the fifth nerve retains its sensibility longer than any other part in narcosis, and that reflexes may be induced through this nerve when other irritations fail. Schirmer uses simply a rolled piece of paper, which he turns in the nose. In dangerous cases he dips the paper into ammonia.—*Chicago Medical Review*.

Action of Tulipine.—This is an alkaloid derived from the garden tulips. Prof. Ringer, *Practitioner*, October, 1880, gives its physiological action as follows:

Tulipine differs almost entirely from the action of alkaloids derived from the plants belonging to the natural order amaryllidaceæ so far as I have examined.

Tulipine is a muscle poison, affecting the muscles like veratria. It is, however, weaker than veratria.

It paralyzes either the cord or the afferent nerves, or both; but probably it affects the afferent nerves.

Its action on the motor nerves, if any, is but slight.

It affects the heart of frogs like veratria.

It does not affect the pupil.

Walsh's Retrospect.—This useful Journal comes to us in a new dress. It is greatly improved in every respect, and is destined to take a permanent place in American medicine. It is a little singular that our Journals used to catch at every article from the pen of any foreigner whose name was somewhat distingué. One journal in this country was spoken of in Dr. Lente's address before the American Academy of Medicine as finding no articles in American journals worth reproducing because not up to its high standard. It could be accounted for before in quite another way, if Dr. Lente would take the trouble to see how much European journals copy articles disdained by the aforesaid. At any rate Dr. Walsh is doing a good work and doing it with skill and discretion, and his subscribers get the cream of American medical literature, now the best in any country.

No. 809.—*Indian Cholagogue (C.)*.—In 1860, Dr. J. A. Mayes, of Mayesville, S. C., sent to the *Druggists' Circular*, p. 317, a communication, in which he stated that a mixture, closely resembling and probably identical with Osgood's Indian Cholagogue may be prepared after the following formula :

Sulphate of quinia,	. . . . .	5	2.
Fl ext. of leptandra,	. . . . .	fl. 3	1.
"Saturated tinct." of stillingia,	. . . . .	fl. 5	4.
Fl. ext. of podophyllum,	. . . . .	fl. 3	3.
Oil sassafras,	. . . . .	gtt.	10.
Oil wintergreen,	. . . . .	gtt.	10.
Molasses (best N. O.)	. . . . .	q. s. to 5	8.

[The "saturated tincture" may be held to mean fluid extract.—*Ed. N. R.*] This mixture is to be well shaken up, before a dose is measured out, so as to get the quinia salt equably mixed with the liquid. Dose for adults 1 to 3 teaspoonfuls 3 times daily, more or less, according to the circumstances of the case. For further information, Dr. Mayes refer to the *Southern Medical and Surgical Journal*, 1849, p. 376.

An Edisonian Anæsthetic.—Readers of *Punch* will remember an amusing parody of Edison's mode of announcing his discoveries,

in which the parturient mountain and muscicular abortion were illustrated, if we remember aright, by an elaborate description of a new life-restoring beverage, which proved to be an infusion of tea. Truth is stranger than fiction, or at least as remarkable, and the parody of the satirist was—unless the *English Mechanic* has hoaxed its readers and many other respectable journals—a true prophecy. Physicians have been blundering for some hundreds of years in attempts at the relief of pain by external applications, but it has been reserved for Mr. Edison to solve the problem by a stroke of genius! They have discovered that various substances, organic and inorganic, lessen sensibility and relieve pain, and have used them singly and in various combination, and will look with eagerness, not unmixed with misgivings, for the addition to their armamentarium which Mr. Edison refers them. Their misgivings will not be misplaced. The inventor of the phonograph, and of the electric lamp of the future, gravely proposes as his latest invention to mix certain familiar anæsthetics together to make a new one. In the words of the *English Mechanic*, “Mr. Edison’s idea is to use a compound (*sic*) of a number of the most powerful chemical substances which act anæsthetically, and which have no effect upon each other. The invention further consists in placing in such compound various menstruums (*sic*) for dissolving the substances, which menstruums shall have no chemical action on each other, or upon the substances beyond effecting their solution. The object of placing in one compound all of the most powerful chemicals which act anæsthetically is to insure the action of one of them—that is to say, if one does not act, the other may. * * * The ingredients which are used are hydrate of chloral, chloroform, ether, nitrite of amyl, morphia, camphor, alcohol, oil of peppermint, salicylic acid, and oil of cloves.” Such is the precious compound Mr. Edison is alleged to have “invented.” It is scarcely an exaggeration to say the discovery is on a par with that of a sportsman who should propose to load his gun, at one and the same time, with a bullet, small shot, and a tallow candle, so that the charge may be equally available whether his mark be a stag, a sparrow, or a deal board.—*London Lancet*.

Are you very sure you have remitted your subscription to the NORTH CAROLINA MEDICAL JOURNAL for 1880 and 1881?

Gastritis and Stomatitis from Hydrobromic Acid.—The writer has used hydrobromic acid extensively in cough mixture, and in solutions of bromide of potassium to increase its sedative effect, and also as a solvent of quinine. It is a most valuable medicine. It is not my purpose to write of its therapeutic virtues here, but to say, that recently five drops repeated every two hours for thirty-six hours and every hour for twelve hours, in solution with syrup of tolu cherry laurel water and Batley's solution, caused stomatitis and gastritis. On several occasions in children, a form of stomatitis was brought on by a very dilute acid, manifesting itself in faint whitening of the buccal mucous membrane, and extending to the gums. It should not be used continuously in large doses. Five drops of *dense acid*, (after Dr. Squibb's process, for there is great difference in its strength and therapeutical effects,) should not be given oftener than every three hours, even though largely diluted.

BOOKS AND PAMPHLETS RECEIVED.

Hernia, Strangulated and Reducible. With cure by the subcutaneous injections, together with suggested and improved methods for kelotomy. Also an appendix giving a short account of various new surgical instruments. By Joseph H. Warren, M. D. With illustrations. Boston: Charles N. Thomas, 215 Fremont Street. Pp. 280.

Lecture on the Surgical Disorders of the Urinary Organs. Delivered at the Liverpool Royal Infirmary. By Reginald Harrisor, F. R. C. S. Second Edition. London: J. and A. Churchill, New Burlington Street. 1880. Pp. 400.

The Druggists' Hand Book of Private Formulas. By John H. Nelson. Seventh Edition. Cleveland, Ohio: 1881. Pp. 338.

The following eight volumes of WOOD'S LIBRARY OF STANDARD MEDICAL AUTHORS:

Diagnosis and Treatment of Ear Diseases. By Albert H. Buck, M. D. 1880. Pp. 410.

The Surgery, Surgical Pathology, and Surgical Anatomy of the Female Pelvic Organs. In a series of Plates taken from Nature. With Commentaries. Notes and Case. By Henry Savage, M. D. London: Third Edition. Thirty-two Plates and 22 Wood Engravings. Pp. 150.

Minor Surgical Gynecology. A Manual of Uterine Diagnosis and the Lesser Technicalities of Gynecological Practice. For the use of the General Practitioner. By Paul F. Mundé, M. D. 1880. With 300 illustrations. Pp. 381.

Treatise on Therapeutics. Translated by D. F. Lincoln, M. D., from French of A. Trousseau, and H. Pidoux. Ninth Edition. Revised and Enlarged by Constantine Paul. Three Volumes. 1880. Pp. 970.

Diseases of the Pharynx, Larynx and Trachea. By Morell Mac kenzie, M. D. London : 1880. Pp. 440.

A Treatise on Common Forms of Functional Nervous Diseases. By L. Putzel, M. D. 1880. Pp. 256.

Thirty-Eighth Report to the Legislature of Massachusetts relating to the Registry and Return of Births, Marriages and Deaths in the Commonwealth. For the year ending December 31st, 1879. Prepared under direction of the Secretary of the Commonwealth. Boston : Rand, Avery, & Co. 1880. Pp. 270.

Photographic Illustrations of Cutaneous Syphilis. By George Henry Fox, A. M., M. D. E. B. Treat, No. 757 Broadway. Parts 4, 5 and 6. Price \$2.00 a part, to be complete in 12 numbers.

Report of the State Board of Health of California. For the year ending June 30th, 1880. Sacramento : 1880. Pp. 140.

Cases Treated by the Lister Method. Reported to the Portland Clinical Society 11th September, 1880. By Frederick Henry Gerrish, M. D. Portland, Me. Privately printed. Pp. 15.

Popular Science Monthly. February, 1881. Conducted by E. L. and W. J. Youmans. D. Appleton & Co. Subscription \$5.00.

The Clinical News. A National Weekly Journal of Clinical Medicine, Surgery, and Gynecology. Edited and Published by Samuel M. Miller, M. D., 536 Spruce St. Philadelphia : \$3 a year.

The Asylums of Europe. By George M. Beard, A. M., M. D. Reprint. Cambridge. 1880. Pp. 12.

First Annual Report of the Sanitary Reform Society of New York. 1880. Pp. 40.

Some of the Errors of Diagnosis of Eye Diseases into which General Practitioners are most apt to fall. By Samuel Theobald, M. D. Baltimore : 1880. Pp. 6. (Reprint.)

Reports of the Boards of Directors and of the Superintendent of the Central Lunatic Asylum, (For Colored Insane) Virginia. For the fiscal year 1879-80. Richmond : James E. Goode. 1880. Pp. 35.

Rocky Mountain Health Resorts. An analytical study of High Altitudes in Relation to the Arrest of Chronic Pulmonary Disease. By Charles Dennison, A. M., M. D. Boston : 1881. Pp. 191.

Restriction and Prevention of Diphtheria. Document issued by the State Board of Health of Iowa.

Restriction and Prevention of Scarlet Fever. Document issued by the State Board of Health of Iowa.

The Abdominal Method of Singing and Breathing as a Cause of "Female Weaknesses." By Clifton E. Wing, M. D. Pp. 8.

Instructions Relative to the Physical Examination of Applicants for Admission to and Promotion in the Revenue Marine Service and for Enlisted Men of said Service.

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THOMAS F. WOOD, M. D., EDITOR.

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NORTH CAROLINA MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., Editor.

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ORIGINAL COMMUNICATIONS.

TWO CASES OF CONGENITAL MALFORMATION IN FEMALES, AND A CASE OF VAGINISMUS.

By R. L. PAYNE, M. D., Lexington, N. C.

The following cases of deformity are not reported as being especially unique, since Barnes, Hewett, Charles D. Meigs, our own Gross, and many other authorities mention having met with similar cases; but they were interesting to me, and may be so to others, consequently I shall offer no apology for reporting them:

CASE I.—ABSENCE OF THE GENITAL ORGANS.

About twenty months since a colored man brought his daughter, a young woman nineteen years of age, to me for examination and advice, and to be operated upon if I thought an operation advisable. She was a well formed girl with sufficient embonpoint, and was, in truth, in every respect splendidly developed with the exception of her genital organs.

Her health was good and she had only been induced to consult me because it had come to her knowledge, that she was unlike other

women. The mammary glands were large and well formed, and the mons veneris and external lips were well covered with hair. The external lips were also perfectly normal as to size, etc., but the clitoris was wanting, and the nymphæ were only rudimentary, in fact, not so large as I have often seen them in the newly born infant. The vagina, and the womb also were apparently absent. Between the urinary meatus and the anus there was not the least opening, or cul-de-sac that would admit even a bristle.

The urinary meatus and the urethral canal were so large that I very readily introduced my index finger far up into the bladder, and explored the parts *ad libitum* without finding either uterus or ovaries. Then with a finger introduced as far up as possible into the rectum, and one in the bladder also, I was not more successful in finding either womb or ovaries, but I was convinced beyond a question that the vagina was absent, because the tissue which intervened between my fingers could only have been the coats of the bladder and the rectum. Again, with a finger in the rectum, and a female catheter high up in the bladder I failed to find any uterus, but could very readily feel the instrument with only thin walls intervening between my finger's end and the point of the catheter. Bimanual palpation with a finger in the rectum, and the tips of the fingers of the other hand pressed firmly down in the hypogastrium was resorted to, but could not be satisfactorily executed, and gave no definite results. There was evidently an absence of vagina and uterus, and perhaps, of the ovaries also, because there had never been any evidences of the monthly menstrual molimen, either naturally or vicariously, (she sometimes bled from the nose, but not oftener than when a small child long before puberty) nor was there present any accumulation which would indicate the retention of catamenial fluid. The large dilatation of the urethra found in this and similar cases has been regarded by many as an evidence that the canal has been used for copulation instead of the vagina; but some of the ablest authorities do not believe it to be so. Robert Barnes says: "This enlargement of the urethra has been commonly supposed to be the result of accidental or voluntary substitution of the urethra as a copulative organ"; but Dr. Oldham is no doubt right in recognizing it as preëxisting and independent of this use. Dr. Routh related a case (Obstetrical Transactions, 1870) confirmatory of Dr. Oldham's view.

CASE II.—PROBABLE ABSENCE OF VAGINA AND WOMB.

Carry B—k, white, aged 17, was placed under my charge during the month of last April to be treated for amenorrhœa. This case was precisely similar to the one above described, except that, her external genitalia were well developed, and the urinary meatus, and urethra were of normal dimensions; but the anus and urinary meatus are so near together that there is scarcely any perinæum—merely a narrow band of flesh between the two outlets, and like the first case only a thin septum between the bladder and the rectum.

My examinations were as carefully conducted as in the first case, and I feel confident that there is neither vagina nor uterus, and I very much doubt the presence of ovaries, although of this I am not so confident.

In neither of these women had there been any evidences of a disposition to menstruation, as pains in the abdomen, loins and limbs, or fullness and weight in the pelvis, general malaise, nervousness, etc., and in neither had there ever been vicarious hemorrhages, unless the irregular epistaxis before mentioned might have been a vicarious act, or any symptoms to denote the retention of menstrual fluid. Both of them were remarkably well formed women, except in the particulars before mentioned, and both enjoyed very good health.

Another reason why I suppose the ovaries were absent was the fact that both of them denied having ever had any animal desire. I know perfectly well that this idea does not accord with the opinions held by some, and I know equally well that, Drs. Goodell, Battey and many others of our greater lights hold to the opinion that spaying does not unsex a woman, nevertheless, with all the lights before me, I do most honestly, humbly and respectfully beg leave to differ. I believe that, in those women in whom the sexual appetite persists after the removal of the ovaries, either that, a portion of the stroma has been left behind, or that, they have supernumerary ovaries which have escaped the knife of the surgeon; and I believe that those women who have been cleanly spayed and who say that animal passion is still potent with them, simply prevaricate because they do not desire that their husbands or any one else shall regard them as unsexed. Yes, I have heard of the woman who was an hundred years old, who, when asked how old a woman

must be before animal desire fails, replied, "you must ask some one older than I," still the *fact* that a large proportion of women do lose all desire after the menopause, has never been successfully and completely controverted. I suppose we are to believe that it nearly always occurs after the natural menopause, and very seldom follows as a result of the artificial! The truth is women naturally shrink from acknowledging any decline of potency, and the fact that a few old women, or spayed women say that they are strong as ever does not make it so! And the fact that a few steers, barrows, or eunuchs have exhibited virile propensities is to my mind only an evidence that they have had over-distended bladders, and have been troubled with an early morning symptom which I might name in the vernacular, but which I will not since *verbum sat sapienti!*

CASE III.—VAGINISMUS AND STERILITY OF LONG STANDING.

On the 15th day of last June Mrs. S., a robust and healthy looking married lady, twenty-six years of age, consulted me for a choking sensation which she compared to a ball rising in her throat, and for other nervous symptoms of minor importance. Her husband who was a vigorous man informed me that, they had been married twelve years, and that, his wife had never borne children, or conceived. Now, I had something of a key to the hysteria, for pray tell me where is the woman who has been married twelve years without children, and has never had hysteria. I never expect to see such a one unless she be one of those spayed women.

I told Mr. S. that there must be some serious cause for this barrenness which if overcome might be the surest means of restoring his wife to good health and happiness. He then astonished me by assuring me that he had never had a successful connexion with her, and after being shown the necessity for it she was prevailed upon to submit to a thorough examination.

Separating the external lips forcibly under a good light the mucous membrane from immediately within the lips to the carunculæ myrtiformes was found to be highly congested, of a dark red color, and studded over with small excrescences, some of them pedunculate, and others sessile, and varying in thickness from a very small to a large knitting needle, and in length from two or three to about five lines. The carunculæ myrtiformes were unusually long, and were also covered over with a number of these vegetations.

The parts were excessively sensitive, and catching one of these excrescences with a small forceps, or even touching them with the finger gave the lady great pain. The hymen had evidently been broken, but I do not believe from what I saw and from what they told me, that it had ever been passed by the male organ.

Having the parts forcibly separated with a long pair of scissors curved on the flat, I removed each one of the vegetations close down upon the mucous membrane, and touched the bleeding site of each carefully with fuming nitric acid, and the points of the caruncle myrtiformes were also snipped off.

The vagina was then securely packed with carbolized cotton plugs, a compress and bandage applied, a dose of morphia given and the patient put to bed. In twenty-four hours the dressings were removed, the vagina washed out first with lead water, and afterwards with carbolized water, and a fresh tampon inserted. This in turn was removed, and the injections repeated. After this the parts were kept separated by means of a novel dilator which answered the purpose admirably. A small cundum or capote about one inch and a quarter in diameter was packed for about four inches deep with cotton, and after it had been covered over with an ointment composed of carbolic acid, extract of belladonna, and cosmoline, was introduced into the vagina, and secured by a compress and binder. This was worn for several days, and removed at night, and the vagina was washed out every night and morning with weak carbolic acid injections. After the expiration of four or five days, Sims' dilator was substituted, and was worn every day during day time for three weeks.

Of course, the husband was directed to be severely continent, and I believe he obeyed me to the letter. The lady is now as well and happy as the day is long—globus hystericus and other nervous symptoms all gone—and Mr. S. has paid my fees too with a good-will and *complaisance* heretofore unprecedented.

I do not believe that these vegetations were syphilitic in character, because the lady was a perfect picture of health, and because there was not, and had not been any signs of disease except the hysteria for which she consulted, and the vaginismus.

December 13th, 1880.

CHRONIC SYNOVITIS—PERI-TYPHILITIS.

A Clinical Lecture Delivered at the Hospital of the University of Pennsylvania, April 24th, 1880.

By WILLIAM PEPPER, M. D.

Professor of Clinical Medicine in the University of Pennsylvania.

Reported by WM. H. MORRISON, M. D., for the NORTH CAROLINA MEDICAL JOURNAL.

CHRONIC SYNOVITIS.

GENTLEMEN :—You have seen this patient before. He is suffering from a widely distributed polyarthritis, i. e., arthritis affecting many joints. It is a case which is difficult to regard as purely rheumatic in its character. Indeed, a great many of these affections of the joint are called rheumatic simply because the joints are the affected parts although there may be no apparent rheumatic diathesis, or rheumatic character in such cases; and I am often very doubtful whether they are not really of a simple inflammatory nature, I do not see why a joint, possessing as it does, a complicated structure, lined by synovial membrane, surrounded by fibrous tissue, the ends of the bones covered by cartilage, should not be liable to nearly all the common morbid conditions, and I think that they are.

Rheumatism, properly so called, is as you know, either acute or chronic. Acute rheumatism is a constitutional disease, a general disease with disturbance of the entire system and with a special tendency to the localization in the joints, particularly the larger ones, of an acute inflammatory action, characterized not by an effusion into the joint, but by induration and swelling of the tissues around the joint. It is evidently dependent upon a general constitutional disturbance.

Then we say that there is true chronic rheumatism. Sometimes this comes on in a patient who has had a series of attacks of acute rheumatism, each one leaving the joints a little more affected than they were previously, a little more swollen, a little more stiff and more liable to become affected on slight exposure. Sometimes rheumatism is chronic from the start. We apply the term chronic

rheumatism, to cases in which the patient begins to have pain, swelling and more or less heat about the joint; the pain increased on pressure and on motion; particularly if these are associated with a marked susceptibility to changes in the weather and there is evidence of a rheumatic diathesis. These evidences are to be looked for chiefly in connection with the function of digestion and assimilation, and are evidenced by a disposition to the excretion of urates, the formation of insoluble urates in the urine constituting the familiar brick-dust sediment, the discharge of urine, scanty in quantity and high in color, and symptoms of a patient disposed to be rheumatic.

When we have a patient presenting evidences of the kind I have mentioned, who after being exposed to cold and damp, has a slow inflammation of his larger joints set up, accompanied by swelling, heat, pain on motion and pressure and the character of the affection influenced much by damp and the like, we speak of such a patient as being truly rheumatic. Yet I would not limit it to the larger joints. It is so, when the smaller joints are involved, although in our definition of rheumatism, we would say that it is the larger joints that are usually affected.

Now you come across cases of joint affections which do not correspond to the cases I have described. They fail to correspond not only in these anatomical conditions, but also in the general course of the cases. These group themselves under several heads.

In the first place we have gout which is quite distinct in its anatomical changes from rheumatism though loosely associated to it in its clinical history, presenting certain strong family analogies. In some gouty families, the hereditary taint shows itself in rheumatism. In some persons who are undoubtedly gouty in character, there are frequently rheumatic attacks. There can be no question as to their clinical relations yet when they are destroyed in their typical forms, any one can tell the difference between them.

Gout is also acute and chronic. Acute gout attacks principally the small joints, particularly the joints of the great toe, very rarely the larger joints. It is an inflammation of the tissues around the joint with a tendency to the deposition of the urate of soda around the joint. Now, gout may become chronic by the person having repeated acute attacks, the joint becomes swollen, deformed and

little masses of urate of soda surround the joint, into which you may cut with a knife. These often cause ulceration of the skin and the chalk sticks out so that a patient can write his name with his knuckle. Gout may be chronic from the start, the joints undergoing slow changes, slow thickening of the fibrous tissue, and deposits of the urate of soda, the patient passing the familiar evidences of the gouty diathesis. Now, here is another class of cases of marked affection of the joint which I say are allied to rheumatism, but which in their typical form are easily separated from it.

There are other cases still. There is a disease of the joint known by the name of rheumatic gout, rheumatic arthritis, exceedingly objectionable names. A better name, perhaps, is arthritis deformans, but yet this is objectionable because other forms of arthritis also lead to deformity. This is essentially a chronic disease, chronic from the start. It affects all the joints in the body. It may begin in the small and go to the large. It is associated with marked evidence of failure of the general health, not of a rheumatic or gouty character but of a nervous and anæmic type, neuralgia, anæmia and progressive loss of flesh. The anatomical changes are entirely peculiar. There is no deposit of urate of soda as in gout nor simply a swelling around the joint as in rheumatism.

In rheumatoid arthritis the changes are from the first, in the cartilages of the joint. These changes lead to their softening ulceration and destruction leaving the ends of the bones bare, while around the joint there are deposits of bone and spicules of bone project into the joint. This leads, especially in the phalangeal joints of the fingers and toes, to subluxation, and ankylosis; to dislocation of the tendons that pass around the joints, to matting of the tendons causing absolute immobility, and in the end to absolute bony ankylosis; the ends of the bone having lost their cartilages becoming united. I have patients under my care at this moment absolutely immovable from the chin down. I have seen cases where even the joints were immovable and the patients could not move a joint in his body. Now, here is a marked affection of the joints, not rheumatic, not gouty. The best name for it has not been found. We call it rheumatoid arthritis.

Here we have three varieties of joint disease yet we often come across cases of chronic joint trouble which do not seem to arrange

themselves under any of these heads, but which behave like other local inflammations of serous membranes.

Here is a case in point. A case of failing general health, the man run down, becomes pale, loses flesh and becomes excessively sensible to changes in the weather and to all depressing causes. Then he begins to have recurring attacks of synovitis with serous effusion. These attacks occur on the most trivial exposure. Now, one joint, now another, then returning to a point which it has attacked before until now almost all the joints, small and large, in this man's body are affected. This is not a case of rheumatoid arthritis. There is no tendency to the destruction of the cartilages or formation of spicules of bone. It is not chronic gout. There is no tendency to the deposit of urate of soda. It is not true chronic rheumatism, but it is a case of chronic synovitis, involving many joints and well illustrates the truth of what I said, that we must not regard all cases of chronic joint trouble as rheumatic simply because the joints are affected.

The changes in this man's joint are very interesting; but I demonstrated them fully the last time he was last before you, and I gave you my reasons for giving a favorable prognosis in this case. This man's fingers are a great deal better. The thumb is still swollen considerably. The elbow joint is the one most effected. I first thought that these irregularities were due to enlargement of the bone, but on careful examination, I find the bone not much enlarged and that the prominences are due to the effusion forming pouches in the synovial membrane. The repeated attacks of inflammation have led to thickening of the membrane and it crepitates under my finger. There is no roughness of the cartilage, no tendency to ankylosis.

I shall to-day speak of the treatment of this condition. I have dwelt upon these different varieties of joint affection because different plans of treatment are required in each case. If it is a case of simple inflammation and you proceed to give large doses of the so-called anti-rheumatic remedies you will fail to do good, indeed you may, in some cases, do harm. Iodide of potassium and guaiacum which are exceedingly valuable in chronic rheumatism, which are valuable in some forms of chronic gout, are useless in rheumatoid arthritis and in many cases of chronic inflammation of joints are

injurious on account of the general health of the patient and if used at all it is only for their absorbent action.

In the first place, let me speak of the constitutional treatment and then of the local. Lying at the root of most of these cases is a depressed general nutrition, anæmia, malnutrition, excessive atony of the skin, so that the patient becomes extremely sensitive to changes in the weather and these attacks are repeated on the slightest provocation. Therefore, the first element in our treatment, and what I say of this, I say of rheumatoid arthritis, must be to try to restore the general health, to improve the digestion, the assimilation and the crasis of the blood. Therefore, tonics, the mineral acids, iron and cod liver oil, are the best agents, at any rate, in the early part of our treatment and until we have improved the general condition.

Again, restoration of the tone of the skin is, I conceive, an essential element in the treatment of this as of many other chronic affections and without this I have constantly failed to get my patients well. I, therefore, have such patients take a course of bathing, either mineral bathing or salt water bathing, at home under proper restrictions. The regular and systematic use of cold water in chronic diseases for the restoration of the tone of the skin and muscles, associated, as it ought to be, with friction, is an element of immense importance. This is the only remedy which the hydropaths use and they have effected cures in many chronic cases which had before baffled the profession. This soon called the attention of physicians to the fact that hydropathy is of great importance in medicine, that the external use of water under scientific supervision, is a remedy of great power and which in conjunction with other treatment, will often effect cures. Hydropaths have lost their hold on the community and are disappearing because they are men ignorant of medicine and neglected of all other methods of treatment. There is no reason, however, why we should not adopt the systematic use of water in chronic diseases. There is no class of cases in which it is so useful as in these cases of chronic joint disease.

In a case as anæmic as the present one, I should fear the use of baths at present and I prefer for such cases friction of the skin with inunction of oil. The body is thoroughly sponged with alcohol once a week, to remove the excess of oil and then the inunction is resumed.

In the next place after the patient's nutrition has been improved, alteratives should begin. Among the best, are iodine, iodide of potassium and nitrate of silver. Where there is a great deal of neuralgic pain, as in rheumatoid arthritis. I have frequently found the use of nitrate of silver with small doses of opium, followed by the best results. Where the pain is not marked and there is a great deal of exudation, I prefer as soon as the general condition will allow it to give iodine or iodide of potassium.

Now, as to the local treatment of the joint. The joints in these cases have their motion interfered with either by effusion or by ankylosis, and it is a matter of great importance to determine how they should be treated. In some cases, if the joint is kept quiet, it will remain quiet forever. In others, if it is kept in motion the effusion will be increased and the joint become less mobile. It is often a delicate matter to decide whether rest or motion should be employed.

I do not know that I can lay down any fixed rules, but I may say that if there is any tendency to ankylosis, the joint should be kept in motion. The pain caused by the motion should not, in the least, deter us from its use. If the ankylosis is great, it should be broken up, not by violent effort under ether, but by daily manipulation by a skilled person.

If there is a great deal of exudation around the joint but the synovial membrane appears to be perfectly healthy motion is often a valuable means of promoting absorption of that exudation, particularly motion alternating pressure by graduated bandages.

If there is a great deal of liquid effusion in the joint, as here, I have never seen much good come from motion, but my experience goes to show that more good may be derived from uniform pressure and absolute rest. In the treatment of these cases of chronic synovitis with large effusion, we have an excellent means of treatment in the plaster of Paris bandage. This maintains perfect rest, protects the part from the atmosphere and supplies regular uniform pressure. As the effusion subsides they should be removed and replaced.

In this case we have treated the larger joints by pressure, the joints which are too small to admit of pressure, we treat by counter-irritation. The muscles and skin are regularly rubbed and kneaded.

Internally, tonics and large doses of iron constitute the treatment, he is kept well wrapped in blankets to protect him from atmospheric changes.

I expect this man to grow fatter, improve in color, and I feel sure that we shall be able to restore him to usefulness and health.

Patients in this cachetic condition from exposure to depressing cause not unfrequently have consumption developed. I have now under my care, cases which began as this one has and where attacks of pulmonary catarrh have been developed running into chronic phthisis. In these cases the phthisis is only the final development of the cachetic condition.

PERI-TYPHILITIS.

This young man is 19 years old. Last summer, he had some abdominal troubles which was said to be inflammation of the bowels. He was in bed three weeks. During this time there was no obstruction of the bowels. He never had anything the matter with his bowels before. There is no history of a blow or injury, or of the ingestion of any indigestible food. After he got over this attack, he went to work and worked until three months ago when he was again taken sick.

I wish I could have shown this young man to you at the beginning of his attack, but I am glad to be able to demonstrate to you his present condition. His health appears to be unusually good. His tongue is clean and moist. The papillæ are enlarged around its border. It is a little flabby and marked by the teeth. He has not lost much flesh, the muscles are firm and the whole tone of the system appears to be good.

Examining his belly you will notice that the right iliac region extending to the epigastric is decidedly prominent. When I put my hands here I feel an indurated mass about as large as my fist. It is dull on percussion, very slightly sensitive and very slightly movable.

He has a good appetite, good digestion and a regular action of the bowels with the passage of cylindrical fæces of normal size. All of these points have a distinct bearing upon the state of the bowel.

We have had then in this case from the first, very little affection of the bowel. This has not been a case of inflammation of the coecum, true typhilitis ; but a case of peri-typhilitis or inflammation

of the connective tissue is very abundant, it serves to hold the bowel in place and allow its contraction and expansion. This cellular tissue like all other is very liable to take on inflammatory action.

The onset last summer was marked by the usual symptoms of pain, fever, and vomiting and from the first there was an absence of the obstruction, which is present in typhilitis. Like other cases of typhilitis and peri-typhilitis the affection has shown a marked tendency to relapse. There is no disease with which I am acquainted in which relapses are more to be dreaded than in this. The treatment is, therefore, of great importance, for if the patient is allowed to go about before his attack is radically cured, you may be sure that he will be back again with a relapse. I have now under my care, patients with this disease who have been under treatment for five or six years trying to get rid of induration and sensitiveness due to recurrent attacks of inflammation. In some of these, ten, twenty, forty, and even sixty attacks have occurred, extending over a period of from one to six years.

I wish, therefore, to dwell upon the importance of treatment in this case. The symptoms are such that we can usually easily recognize the nature of the trouble. There is generally at first a chill followed by fever. Vomiting is nearly always present. You will notice that there is marked elevation of temperature and pulse rate. This is undoubtedly due to the fact that the peritoneum is either directly inflamed or else closely sympathizes with the inflamed bowel. The pain complained of is usually referred to the right side. Now, pain in the right side and vomiting might give rise to the idea that it was a bilious attack. The tenderness complained of is over the iliac region and not over the liver, and in the earliest stage careful palpation will detect some induration. Then there is more elevation of temperature and pulse rate than in a bilious attack. The diagnosis is very important for the treatment of the two conditions should be entirely different, and an improper treatment in typhilitis may lead to disastrous consequences.

The treatment should be absolute rest, full doses of opium, either hypodermically or by suppository, total avoidance of all purgative doses, small quantities of liquid food which will leave no residue, as concentrated beef juice, arrow-root and water, etc. In the early

stage, leeches may be used and small doses of calomel given. This may be pushed to the brink of producing mild salivation. Quinia by the rectum may be combined with the opium.

After the vomiting and fever have subsided the patient should be favored by the use of blisters and internally the use of some remedy that will favor absorption. Here I prefer nitrate of silver for its local effect.

Now, in dealing with this mass of induration, it will take at least a year to get rid of it, if he is lucky enough to get rid of it at all.

The serious results that may follow the improper treatment of this condition are so important that I shall take occasion to call your attention to them at another time.

Doctors and Astronomy.—At the convention of the Decennial Revision of the Pharmacopœia last May there was quite an assemblage of medical and pharmaceutical sages, and to these gentlemen was shown any amount of attention by the local committee. Among other entertainments was a reception at the National Observatory by Admiral and Mrs. Rogers. During the evening small parties were taken to the observatory to gaze upon the starry firmament. The officer in charge of the telescope adjusted and readjusted the instrument in vain, calling attention to the satellites of this and that planet visible, but all to no purpose; they stupidly failed to see the wonders. The exhibition was about to be a failure, when something tangible burst upon the vision of an elder "saw-bones" in the form of an astronomer's chair, when the party was relieved from their embarrassment by the wise exclamation: "By George! what a splendid gynæcological chair that would make!"

Hyperæsthesia of the Skin in Dyspepsia.—M. Levin (*Le Progrès Médical*, No. 47, 1880) says hyperæsthesia has been constantly known as a hysterical phenomenon, but in reality it is dependent on dyspepsia; anæsthesia being the proper symptom of hysteria, and if both concur the patient is both dyspeptic and hysterical.

Percussion of the Heart in Chloroform Narcosis.—In the *British Medical Journal*, Mr. F. W. P. Jago advocates the sharp percussion of the heart's apex in asphyxia due to chloroform having apparently rescued a patient from death by it.

SELECTED PAPERS.

HÆMOPTYSIS.

An Abstract of Harveian Lectures on the Prognosis and Treatment of Chronic Diseases of the Chest in Relation to Modern Pathology. Delivered at the Harveian Society of London.

By JAMES E. POLLOCK, M. D., F. R. C. P.,
Senior Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

Hæmoptysis has a leading place among the events of chronic disease of the lung; and new doctrines have recently been enunciated about its influence, both as a cause and consequence of such affections.

Hæmoptysis is generally a symptom of congestion, which, in such cases, is the real condition to consider, and to treat. It is only another word for pulmonary apoplexy, of greater or less extent. There is another, and very fatal, form, which is a mere leakage from a broken vessel, and almost always the result of the rupture of a small aneurism of the pulmonary artery.

There are, therefore, two kinds of hæmorrhage from the lung; the congestive and the passive.

To those who hold that chronic changes in the lung are due to inflammation, a hæmorrhage, arising from increased afflux of blood to a highly vascular tissue, is no unexpected event. It is, in fact, a part and a symptom of congestion.

On the other hand, the school who believe in tubercle-formation being the essence of lung-induration, are puzzled to account for it. I would remark that acute tuberculosis—by which I mean an invasion of a large tract of one or both lungs by the grey miliary (millet-seed) tubercle—is not accompanied by hæmoptysis. The acute croupous pneumonia has its colored sputa (colored, that is, by exuded blood); but hæmorrhage, as such, is not a feature in the case.

I think we need not discuss the question, whether hæmoptysis is of pulmonary or of bronchial origin. It is almost always pulmonary.

Whether the first step in the lung-induration be an inflammation or tubercular, we may, I think, concede that, excepting in the slowest and most insidious forms, it is accompanied by congestion of lung-tissue; and hence the great prevalence of hæmoptysis. It will be remembered that the earliest changes in phthisical lungs are shedding of alveolar epithelium and block of the air-cells, with consecutive small cell changes in the walls of the cells and in the intercellular tissue, in which lie the blood-vessels and lymphatics of the lung. Engorgement is sure to follow, and impeded return of venous blood; while the tissues become softened and disorganized.

The occurrence of congestive hæmoptysis at the beginning, or in the progress of phthisis, is accompanied by a high temperature, running up to 104° or 105° . Its persistence may also be gauged by the thermometer and by the pulse. Should a more or less sharp hæmoptysis subside, the temperature falls, and the pulse becomes soft.

Should the bleeding initiate a lung attack—that is, occur to a person apparently in good health—we may expect that it will be followed by the signs of consolidation of a portion of lung, and the event of phthisis. There is a form of rapid phthisis, of which I have given an instance, which proceeds with great activity, after an initial florid hæmoptysis of some extent; and we must be on the look out for such, and remember that it proceeds by progressively causing patches of consolidation in the lung, of which you will have the usual physical signs.

Should congestive hæmoptysis occur (as it generally does) in the course of chronic phthisis, you may have a long pause, or suspension of active symptoms, following its cessation. I have so often had occasion to observe this event, that it seems well worth bearing in mind when called on to deliver an opinion on the result. How often, also, do we witness repeated attacks of rather profuse hæmoptysis, at long intervals, in the same patient? That a second and third hæmoptysis may succeed, is almost certain; and that an appreciable amount of relief to the lung is produced by the bleeding, I have no doubt. All these events bear strongly on my proposition at starting; that the local congestion of the lung has much to say to the clinical history of phthisis. I shall afterwards speak of its bearing on the treatment.

The structural changes induced, or directly caused, by hæmoptysis in chronic lung affections, have recently received much attention from the investigations of my colleague, Dr. Reginald Thompson.

According to his careful observations, blood poured into the bronchi, during an hæmoptysis, is drawn by insufflation into the deeper parts of the lung; and, in many instances, becomes impacted in the alveolar tissue. In this situation, the clots may remain for months and undergo slow changes, being converted into fibrinous nodules, which become capsuled, and undergo further secondary changes. "The microscopical appearances of these nodules consist of a group of alveoli, firmly packed with a semi-opaque homogeneous fibrinous material; and there is also thickening of the alveolar tissue, and of the interlobular tissue, which forms the investing capsule." In some instances, a copious exudation of blood-corpuscles is found in and around the air cells. The ultimate changes are, that the nodule, by shrinking, often becomes detached from its capsule, causing occasional hemorrhage in this process; and being disintegrated, is poured into the bronchi, and expectorated—leaving a small cavity filled with a glairy food like honey. Many such secondary cavities of this kind may be found in a lung. What Dr. R. Thompson calls the traction of the sound part of the lung, initiates the separation of the nodule from its capsule.

The localities in which such blood-clots are found are observed to be chiefly in the "periphery of the lung, i. e., the summit and middle part of the upper lobe, the middle axillary region close to the pleura, the anterior inferior border, and the middle part of the base corresponding to the summit of the arch of the diaphragm." These positions are exactly those in which an inhaling force, directed from the root of the lung, or larger bronchi, to the periphery, would lodge them.

The secondary changes in such clots are not due to putrescence, for blood does not putrefy if air be excluded; and in the positions indicated, they are not reached by air. This is in accordance with Zeimssen's experiment, in which no putrescence nor caseous pneumonia followed the injection of blood into the lung-tissues of a healthy dog. The fibrinous clots become hard, of a white or light red color, often pigmented with black granules. Dr. Thompson

considers that they do not degenerate into tubercle, nor irritate the tissue unless septic matter, probably from a tuberculous cavity, becomes mixed with them. Occasionally they calcify, and such products being dislodged, a small dry cavity results.

These observations, which possess much interest, show us that hæmoptysis is itself a cause of important changes in the lung in certain cases. While acknowledging their value, I must observe that a large number of cases of lung bleeding are certainly not followed by any such results. On the other hand, we should always be on the look out for them. Hæmoptysis may, as we are aware, be caused by other than tuberculosis or phthisical diseases, and occurs often without any secondary result whatever, as in certain instances of pulmonary congestion, due to cardiac causes. I cannot enter here into the recent controversy imported from Germany, as to whether tuberculous or destructive diseases of the lung are initiated by hæmoptysis. My own belief is, that it is not a primary causative agent in any case, but that some morbid process in the lung has preceded it.

The other form of hæmoptysis—the passive—resulting from the rupture of a pulmonary vessel, or from an aneurism of the pulmonary artery in an ulcerated lung, is very familiar to us. The mechanism appears to be that one side of a pulmonary branch will be unsupported in the walls of a cavity, so as to present softening and aneurismal bulging. The result of such rupture is often immediately fatal. It occurs in males much more frequently than in females, for, out of twenty-two fatal cases, twenty were males.

The prognosis, in cases of large hæmoptysis, should of course be guarded. No one dies of a first hæmoptysis. Large hæmorrhages are apt to be repeated, the patient belonging, probably, to the class of individuals affected by hæmophilia; or the form of disease under which he labors favoring such structural deviations as account for his bleeding. Hæmoptysis is often followed by a pause in all the symptoms, the congestion of the lung being relieved. Many of the longest cases I have seen have been most frequently attacked by moderate hæmoptyses.

The case of a schoolmistress, now aged 43, whom I have watched since she was fifteen, has been often referred to by me. At the age of fifteen, a cavity formed in her left lung. Under my notice, long

since, the subclavian walls have fallen in, and a dry cavity of smaller size exists. She has a rather profuse hæmoptysis once in several months. In her ordinary state she is rosy, well nourished, and weighs about twelve stone. Every hæmoptysis relieves her from dyspnœa and cough. She still teaches in a national school.

Having considered the secondary changes which hæmoptysis may produce in the lung-tissues, apart from any tubercular development, we may examine the secondary local affections which occur in the course of most cases of chronic diseases of the lung.

In old times, these fibrinous or calcified deposits were regarded as tubercle. But modern pathology decides that in certain instances, sufficiently numerous, they are simply due to impacted blood-clots, which ultimately undergo degenerate changes. They are thus analogous to the alterations undergone by inflammatory exudations in other parts of the body. Many of our most chronic cases are doubtless of this class, and there extreme chronicity is an argument in favor of their origin from such cause. It has been said of tubercle that its life is short; and it is certainly most in accordance with modern observation, that a few months, at most, complete the various changes from its development to its death and degeneration.

But those puzzling and very chronic cases which last for years, with signs of consolidation or of cavity in one portion of a lung, may often be accounted for by an altered blood-exudation, which has retained only its fibrinous character, or has become calcified in the lung-tissues. These considerations should be present with us in forming a diagnosis, or in offering a prognosis of very chronic cases. In such we may not be witnessing the final degeneration of a mass of tubercle, but only the result of hæmorrhagic impaction, or of inflammatory exudation.

I turn now to the *secondary local affections* of the lung, and they are of great clinical interest.

A patient, suffering from active disease in a part of one lung, will have the opposite lung at base or apex, or the lower part of the same lung, attacked by congestion: that is, an induration similar in physical conditions to that which first existed, will develop at a distant part. You will have, say, a patch of dulness; breath sounds more or less tubular, and crackle or moist crepitation. Febrile symptoms accompany or rather precede, the physical signs,

for the patient will have chills, high temperature up to 104° or 105°, pain in the side, rapid pulse, and possibly a congestive hæmoptysis before the physical signs are developed. Is this first attack in a distant part of the lung due to taking cold or exposure? As the event is witnessed daily in our hospitals, where the patient is guarded from every such event, we must reject this explanation.

That it is due to infection seems likely from the following circumstances :

1. From the likeness of the secondary to the primary affection. The congested or indurated portion of lung is found in the same pathological condition; that is, either an inflammatory exudation occurs affecting the alveolar and interalveolar tissues, or a deposit of that which is recognized as miliary tubercle takes place. The irritative fever accompanying it is also identical.

2. That it is not a mere extension by continuity of morbid processes is evident from the fact of distance, portions of healthy lung intervening. At the same time, such direct extension does occasionally occur, but forms no argument against the infective theory.

3. Facilities for conveyance of morbid matters are abundant; either directly by mechanical conveyance through the air-tubes, or indirectly by the lymphatics and blood vessels.

4. Analogies may be found in the extension of cancer to distant parts, or in the secondary abscesses from pyæmia, although the septic element has probably much to do with the latter.

An argument in favor of the infective theory may be found in the period of lung disease in which these secondary attacks occur. According to my observation, they are most common during the period of softening, when tissue-compounds are disintegrating, and in a condition to enter the circulation of the lymphatics. They are also least common in cases of chronic cavity well defined, and, as we know, lined by a membrane, and surrounded by fibrous formations, which obstruct all the vessels and harden the tissues.

Before leaving this part of the subject, I would remark on the prognostic indications to be gathered from such attacks. They are among the most fatal events in phthisis, and it may indeed be said that they form the terminal period to most of our chronic cases. Viewed as congestions they are never completely recovered, and regarded as extensions of tubercular deposit, they only indicate a further and lower stage of disease.

In forming a prognosis of any given case, we must then mainly consider the form and limits of disease, the existing symptoms, and the modifying agents found in age and heredity. Of form and limit I have given illustrations in the apex disease, well defined with much induration; and in the diffused form of disease which does not attain to the stage of cavity.

In chronic cavity, large or small, but single, and situated at the apex of one lung, we have generally a very prolonged example of tolerated disease. The mechanical conditions of localization and limit have been complied with; the necrotic processes have been completed, and a membrane lines the walls. The pulmonary and nutrient vessels have become obliterated. It is, however, a necessary condition that a healthy circulation should exist in the surrounding parts, and this is a *sine quâ non* for shrinkage and possible cicatrization. The surrounding cells are generally emphysematous, and two or three are often found thrown into one. Such cavities may enlarge, or from traction of other parts of the lung, may become united to another neighboring cavity.

But their undoubted tendency is to contract, and that of the surrounding parts of a healthy lung is to expand; and this should be remembered in treatment. Such cavities are large secreting surfaces, and are liable to catarrh, or, as my colleague, Dr. Powell, expresses it, a man may catch cold in his cavity from ordinary causes, and at such times there is increased secretion which may afterwards dry up. Cavities deep in the lung, with imperfect or circuitous connection with a bronchial tube of some size, are very apt to permit the formation of collections of secretions which become foetid, when the patient becomes intolerable to himself and others, and septic fever may arise and prove fatal or shorten his life. In such a state, condition differs but little from that of chronic abscesses in any part of the body, and the surgical treatment by free emptying and drainage will form part of our considerations when next we meet. The other misadventures to which a cavity is liable are, profuse hæmorrhage from a pulmonary vessel generally lying in its side, and protected at one part, permitting bulging and progressive softening, or aneurismal dilatation. A pneumothorax from softening of the walls of the cavity or tuberculosis ulceration of the investing pleura may, in rare instances, complicate and precipitate the case.

But on the whole, from its representing a local disorder which has completed its degenerative changes, from its distinct limitation by fibroid alterations of connective tissue around it, and from its isolation in the lung, it must be regarded as a form of disease tending to great chronicity.

In forming a prognosis in any given case, the chief symptoms which must decide a favorable or adverse result, are *fever* and *wasting*.

High temperature means the presence in the blood of febrific materials, the result of caseous degenerative changes in the lung. As is well known, there is a daily evening exacerbation, and the minimum is generally found about 7 A. M. In a chronic quiescent case of phthisis, these changes vary but little from the healthy standard. That which is of evil import is a high evening maximum followed by a low morning minimum. The acute angled curve in the diagram, with a large diurnal change, is much to be dreaded. The gradually declining curve means diminished febrific material in the blood, and a coinciding diminution of urgent symptoms. A rapid sudden rise often indicates an approaching hæmoptysis, or a local congestion, or a deposit of miliary tubercle in a distant part of the lung. A sudden fall to a sub-temperature is indicative of collapse, and often precedes a fatal issue.

From the fact of the minimum temperature occurring in the early morning, we may gather the indication for nourishment to be administered to the patient at that time.

Upon the subject of temperature, we may notice that the absence of high temperature contra-indicates phthisis in doubtful cases where the physical signs are of a dubious character; and it may be remarked that, although the thermometer is occasionally at fault in offering positive evidence of existing disease, it is invaluable where giving negative results in doubtful cases.

Finally, we may remark, that the temperature will be found highest in acute florid phthisis, with extensive infiltration of caseous masses, while it is lowest in cases where fibrous alterations are most complete, because in the latter case there remains no broken-down material to be absorbed.

Of wasting of the body, it is to be remembered that progressive waste and high temperature are almost always coincident; and that

the third element of phthisis, progressive local disease, is seldom absent in such an evil concurrence.

Progressive improvement in weight is generally, but not always, coincident with a stationary or improving condition of the lung. It is, of course, a favorable state; but in very numerous instances it will be found that, while a patient is daily adding to his weight, a steady but slow increase of local disease is proceeding.

Hæmoptysis, which is common to every stage of phthisis, is an uncertain guide in prognosis. A rapid uncontrollable form of disease is often begun by hæmorrhage, the tendency of which is to repeat itself at short intervals. I have before considered the conditions of lung which result in such forms; some consisting of a succession of congestions, which unite and break up all the tissues. The more remote events which follow the impaction of clots should also be remembered.

But it is undeniable that some of our most prolonged cases are hæmorrhagic. The congestion of lung appears to be relieved by the bleeding, and a long pause often occurs, during which the symptoms are in abeyance, and the patient loses his fever and recovers flesh.

The influence of age on the development and progress of chronic affections of the lung is well marked. The strumous cases—infectious from the break up of scrofulous inflammation—are naturally found in the earlier periods of life, during the years of growth, and in early adult age. Hence the large proportion of cases are found at that time. The more acute and rapid forms of disease are also placed here, and the more urgent symptoms as high temperature and rapidity of waste, and profuse congestive hæmoptysis. But, about the middle period of life, although phthisis has not ceased, there is a noted lessening of its frequency, and a marked difference in its type. The degenerative changes in the lung are more of the class belonging to chronic induration than to caseation. At Chelsea Hospital, in the bodies of men aged from sixty to eighty, half the cases exhibited chronic diffused grey consolidation, concretions in the lung, excavations, or traces of recent and old cicatrized cavities.

The type of chronic lung-disease after 45 is slow; the febrile action mild, the secondary complications few; and there is precisely

what might have been expected from a knowledge of its pathology. After 45 many cases of phthisis occur, although at that age insurance-offices reckon that the liability has been passed. Christian found that 22 per cent. of the deaths in lives selected by the Scottish Widows' Fund, occurred from phthisis between forty and fifty years of age. It is at this time of life that old deposits in the lung, the result of low inflammatory action, often at the base, break up, and may assume the tubercular form.

On the whole, we may assume, in offering a prognosis, that the more advanced the age, the more likely is it that instances of disease will be latent in development, and chronic in form.

Permanent acceleration of pulse in the aged is often indicative of latent advancing disease. The complications, as profuse hæmoptysis, diarrhœa, and laryngitis are uncommon.

Did time permit, I should have much to say of the influences of heredity on chronic disease of the lung, both as a cause, and as influencing the form and progress of disease. I must confine myself to a few of the leading considerations.

From extended and careful observations I believe that two-thirds of the cases of phthisis have had the hereditary element. Hereditary should include remote ancestry. The common mode is to inquire if parents, brothers or sisters have had the disease, but this is manifestly only a part of the story of our position in the chain of animal life; our inquiry, to be correct or reliable, should extend back for several generations on both father's and mother's side.

We are familiar with the fact that form and features, organic peculiarities, mental configuration, the shape of hand or foot, habits of movement, moral power or weakness, and especially emotions, are transmissible, not only from parent to child, but often an individual will reflect some of the peculiarities which have been known to characterize an uncle or grandparent in a remarkable degree. And so it is of what we call constitution, which means peculiarities of vital organization.

It is true that the germ so inherited does not always produce fruit, because the soil may be unfitted for its growth. Thus, one individual in the chain of inherited weakness may escape. On the other hand, it is not to be forgotten that he may be a transmitter of disease, although not personally a sufferer. His children may, under favorable circumstances, develop the ancestral tendency.

Again, forms of disease are transmitted. Many members of the same family often die at the same age, of the same form or variety of phthisis, which one individual after the other appears to develop on arriving at the same period of life, which, in such cases, is generally early. We are all of us familiar with this painful fact in practice. Just as longevity is distinctly transmissible, just as members of the same family reach the same age of advanced life, which is indeed the term for which the machinery is adapted to last—so the inherited germ takes root, and develops a fatal disorder at a given period of growth in earlier life. I have known several members of one family, in repeated instances, exhibit precisely the same variety of phthisis—cavity, or diffused disease, or acute tuberculosis—as others of the same stock who preceded them. The hæmoptysical variety is notably heritable, and runs in families.

The question of marriages of near consanguinity arises here; and I believe they are safe, unless there be in the race some proclivity to disease, which, in such case, is precipitated on the offspring from both parents. Such are some of the more prominent facts about heredity; and in forming a prognosis of any given case of disease, they should always be borne in mind.

In concluding this portion of our subject, we may enumerate some of the leading features of the more favorable, and contrast them with the less favorable conditions of chronic lung-disease.

The more favorable local conditions are :

1. Well limited induration. The more a portion of lung is indurated, shown by marked and defined dulness, and the other signs of consolidations, the better the prognosis. The more marked, on the other hand, the signs of caseation and degeneration processes, the worse the prognosis.

2. The single cavity, well limited, and defined : the other parts of the lung unaffected.

3. The diffused form of disease, which I have described as exhibiting crepitant sounds over a large surface of lung, with moderate dulness, and slightly impaired movements in a well shaped chest.

4. The existence of extensive fibroid alterations, with well-marked characters.

Among the general favorable conditions, the most important by

far are the absence of fever and waste. These two symptoms are, as we know, concurrent in almost every case. The fever, being fed by morbid material from the disintegration of caseous products in the lung, is a direct measure of local irritation; and the amount and degree of local irritation may almost be said to be the measure of the patient's danger. Loss of flesh is always an evil symptom, as progressive regain of weight is good.

As regards temperature, high maxima and low minima are of bad import. The table-curve of temperature which is best, is one which, avoiding extreme fluctuation, gradually subsides to low or normal level, and remains there, with the slight diurnal variations of health.

The absence of secondary complications, as diarrhœa or laryngeal ulceration, is of primary importance, if we are to hope for prolongation of our case, or restoration to comparative health. Diarrhœa of the persistent form is especially prejudicial; also anorexia or vomiting, often repeated. With a fairly sound digestion, your patient may weather many lung-difficulties; and I consider this next in importance to the absence of fever and wasting.

Finally, to the above conditions we may add the following:

Absence of hereditary taint;

Age past forty-five;

The chest well-shaped (not of the phthisical form).

In making a summary of the symptoms of any case, the physician, carrying his knowledge with him, ever ready of application, will doubtless apply the doctrine of averages to every individual he sees. But he will also gather indications from a variety of minute signs—the face, the hand, the skin of his patient; and also from his general nerve-condition; and by a multitude of minute symptoms difficult to put in words, he will come to a judgment as to his vital powers of resistance. Especially, he will remember that chronic chest-disease is multiform; that some individuals outlive a vast amount of local disease and systemic waste, while others succumb to comparatively light disorders. He should also not be in haste to prophesy results from any given condition of his patient. Especially should he avoid condemning a case as in the “last stage”, a term formerly applied to cavity in the lung, but inapplicable as expressing a local condition only. The patient's powers should be

measured, and his vital resistance estimated, and the numberless cases remembered which have outlived evil prognostics, and possibly adorned the short-lived triumph of some quack medicine.

While condemning every thing untruthful in opinion, we are bound to give our patient every encouragement which is truly derived from an intimate study of his disease. Above all, never let us prophesy as to time. You will often be pressed to say how long; but, unless in cases of impending death, we are not called on thus to map out disease. For, indeed, it is not often possible to assign a duration to even our most advanced cases; and to become prophets as to time is to subject our art to almost certain depreciation in the eyes of the vulgar.—*The British Medical Journal*.

ON THE TREATMENT OF FRACTURE OF THE THIGH IN SMALL CHILDREN.

By DR. LENTZE, of Saarbruecken,

In the following, I beg leave to report a case of fracture of the thigh in a child, which I treated by a new modification of the extension apparatus. The idea is not my own, but one for which I am indebted to Schede, who mentioned it to me during the fall "sessions" of last year. I am not aware that any notice of this method has ever appeared in literature; however this may be, it is certainly not generally known. As it presents, in particular cases, very material advantages, and as it deserves to come into general use, it appeared to me that this publication might be of interest.

The great difficulty with dressings applied to the pelvis or thigh of a young child, is to keep them from becoming soiled, which could not be successfully done by any of the methods heretofore practiced. The younger the child the oftener must the dressings be replaced—either partially or entirely—and even then, the bad smell, as well as the early appearance of excoriations and eczema is not entirely avoided. The method now about to be described overcomes this drawback in the simplest and most complete manner.

August Künzer, a vigorous, healthy child, aged two years and seven months, was brought into the hospital with a fracture of the left thigh, received by a fall on the stairs. The point of fracture was between the middle and upper third. On the following day a dressing was applied, composed of the adhesive plaster and flannel roller generally used for horizontal extension, the pulley-frame was

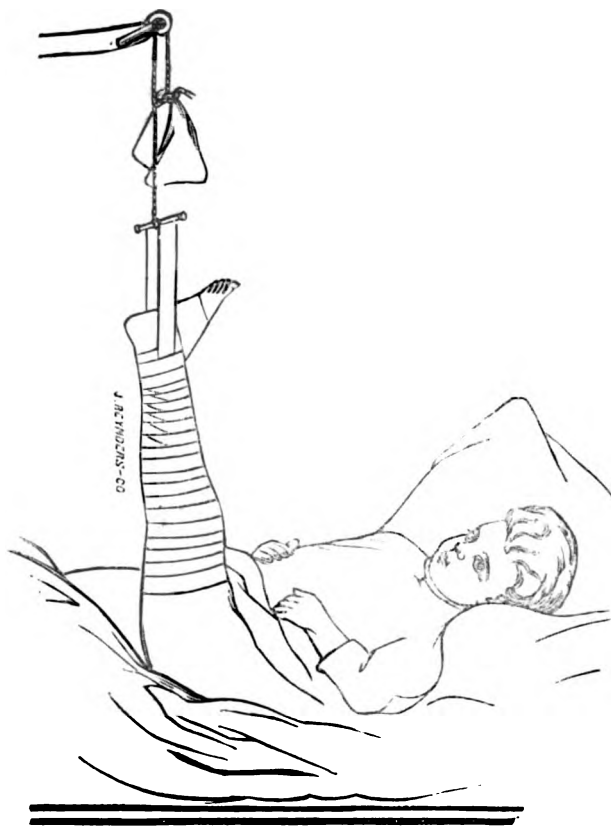


Fig. 1.

so fastened above the bed that the pulley came directly over the pelvis of the patient, and in this manner the entire extremity was suspended in a vertical position. The weight—a sand-bag—was just such that the nates, by very slight assistance from the hand, could be made to swing clear; for this purpose about four pounds were required. (Fig. 1.)

The child did not manifest the slightest sign of uneasiness during the whole procedure, nor did the unaccustomed position cause him the slightest apparent discomfort during the entire treatment. He was always cheerful and inclined to play.

I allowed the apparatus to remain in place fully four weeks. The bed-pan could be easily placed in position when needed, without interrupting suspension ; it was also easy to clean the child when he had soiled himself—which he did very frequently—and the bandage remained clean during the entire course of treatment. A sufficient callous developed early and became firm at the end of the third week, and my allowing the dressings to remain in place a week longer may be considered an unnecessary precaution on my part. I removed them on June 23d, and found the result satisfactory in every particular ; the recovery was perfect and without any deformity, and the patient was dismissed shortly after.

The patient did not remain absolutely quiet, especially during the last week; I frequently found him sitting upright in bed—the body parallel to the suspended leg. At the first opportunity I shall modify the method somewhat, so as to prevent the too free movement of the patient. First: An attachment can be easily applied—



Fig. II.

similar to Volkmann's sliding foot-board—which will prevent a rotation of the foot and a consequent *dislocatio ad peripheram*; over the flannel bandage, a light plaster-of-Paris bandage can be applied, reaching to about the middle of the leg and including part of the

foot; at the lower end of the calf, a piece of wood may be secured in the plaster, and made to slide between two other prism-shaped pieces. (Fig. II.) Such a contrivance can easily be secured to the frame of the extension-pulley.

If anything further is desired, a belt may be placed around the patient's thorax and either be sewed directly to the mattress, or to another strap, which is to be fastened to the sides of the bed after the manner of Rauchfuss' swing.

Small children have the habit of drawing the thighs up toward the body. By this movement of a fractured thigh, an angular position of the fragments—the angle opening posteriorly—may easily occur, as only the upper fragment follows the movement. This *dislocatio ad axin* is also most successfully prevented by the vertical suspension.—*Berlin. klin. Wochenschr.*, No. 52, 1880.—*International Journal of Medicine and Surgery*.

We return thanks to the *Boston Medical and Surgical Journal* for its attention to the reviewer in the *Medical Times and Gazette*. Our English cousins arrogate to themselves rather much superior knowledge of our common language. "After all", says the *Journal*, "the language of educated people of the countries is not very different."

The reviewer referred to took Dr. Goodell to task for using the word "crowd" in the wrong sense of packing the vagina, and for using the word "sag." After reading the lesson our Boston friends have set for him he will be wiser.

English medical journals for the most part are rarely willing to accord unequivocal praise to American books, and when the scientific composition cannot be assailed, they seem to feel it their duty to grumble about the use of the mother tongue. If they would only discover the flexibility of their own tongue, we would not have to wade through so many harsh Anglicisms.

Annals of the Anatomical Society.—It is truly gratifying to know that the ANNALS, the handsomest medical journal published in any language, has enlarged its sphere of usefulness, and become a permanent issue.


It is a pleasure to read a journal so beautifully printed and so ably edited. Its articles are all original, and so far, are from the pens of the ablest anatomists and surgeons. The rare biographical sketches by Dr. George Jackson Fisher, are alone worth twice the subscription price, \$2.00 a year. Address Editors of *Annals*, 28 Madison Street, Brooklyn, N. Y.

EDITORIAL.

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THE SUPPRESSION OF SYPHILIS.

At the meeting of the American Public Health Association in New Orleans, Dr. J. L. Gihon, made the report of the committee on the Suppression of Syphilis. We presume that the report was Dr. Gihon's original work, knowing how much time he has devoted to the matter.

The wide spread of syphilis was contended for in this report by statistical data of some value, but we do not think it sufficient to convince every one that about one person in fifteen even in New York is affected with syphilis either acquired and inherited. The statistics aside though, there is no doubt that all who heard the paper were willing to admit that syphilis prevails to such an extent as to excite the apprehensions of medical men and philanthropists in general. We seem to have arrived at that period in our national history when an effort must be made to limit the spread of the blighting disease.

The plan suggested by the committee is that State Legislatures be asked to enact laws making it a crime for a person

to knowingly communicate a contagious disease, such as small-pox, scarlet fever, or venereal disease, to another.

Now it is very desirable that the syphilis in particular should not be communicated from one person to another, and that it should be stamped out entirely. But it must be a very inexperienced man who would hope that legislation could be procured to bring about this end. Even if legislators were ever so deeply impressed with the evil of the increasing spread of syphilis, it would require a degree of wisdom not usual among law-makers, to shape a statute that would not be open to abuses of the most flagrant character. What a temptation any law to punish the spread of syphilis would be for women of ill-fame, to smurich the character of any man whom their caprice or enmity would suggest as a mark. The proceedings in court would be necessarily of the most demoralizing character, and the prurient ears of the lounging multitude would be regaled by attendance on the courts, and nothing but evil grow out of it to them.

But the real difficulty would be to prove the identity of the carrier of the contagion. The complainants, except in rare cases, probably prostitutes, who even with the best intention, could only swear to probabilities. On the other hand, in the rare case that a male was the complainant, this very fact that he was willing to make such a public confession of his own shame, would or ought to vitiate his testimony in the estimation of any jury. The impossibility of a law being framed for the suppression of syphilis seems greater as we look more intently at the subject.

What is to be done then? We recognize the necessity for action, now what is our remedy? We are sorry to say it is not one likely to be looked upon with much favor by those who see the necessity for speedy action. It is not to license houses of prostitution, for upon this point we are of the opinion that communities and law-makers should not recognize the existence of such houses, much less endorse them by admitting them a necessary evil coming under legitimate inspection and supervision by officers of the law.

Our only hope is in the chastity and purity of young people. These should be taught the danger of syphilitic blight, by their parents. This instruction should be quiet, dignified and serious. It should be attempted at such time as the watchful eye of the parent

will deem best. It should be so thorough, that young women would refuse the acquaintance of a man reputed to be syphilitic, and that a young man would limit his intercourse with a reputed syphilitic, to the merest civilities.

In other words if the moral and religious and mental training of our children is imperfect in this respect, if a robust public sentiment does not grow up condemning lewd men and tattooing them from free intercourse with our young women, if young men and women are not encouraged to marry earlier, if the habits of society are not to encourage young people to commence life humbly, then it is useless to talk about enforcing morality by law.

After all, the question of the suppression of syphilis is one in which the whole community must take its part, the minister, the physician, the humanitarian, are all to use their influence by pointing out the evil and showing the way of escape.

There is one practical point, however, at which an experiment could be begun, to determine how far the limitation of syphilis is practicable. In every large sea-port town there is a United States Marine Hospital and Surgeon. There are many sailors seeking employment in new vessels. These sailors are the media for the spread of syphilis largely, from one country to another, and from one port to another. If there was a law requiring that every sailor seeking employment on a new vessel should be examined, and all syphilitics either rejected or put under new treatment, it would open the way to a great reform. The organization of the Marine Hospital is amply sufficient for this purpose, and the necessity for action in this direction has more than once been ably presented by Surgeon-General Hamilton. If in addition to the inspection of seamen as above indicated, municipal authorities would show some interest in the matter, by refusing to license brothels, and throw the weight of their influence in favor of the Seamen's Homes, where liquor is not sold, then the experiment would be fairly inaugurated. But like all reforms it would grow slowly, without it had the sympathy and endorsement of the public.

We fear the secret of the solution of suppression and limitation of syphilis is not near at hand.

TRANSACTIONS OF THE MEDICAL SOCIETY OF VIRGINIA FOR 1880.

These Transactions are bound with the January number of the *Virginia Medical Monthly*, according to a custom established by Dr. Edwards, he being the Secretary of this Society as well as editor of the Journal.

When Dr. Edwards commenced his journal, if we remember correctly, just after the reorganization of the Virginia Medical Society, there was but little life in the medical public in the Old Dominion State. It is due to his efforts that his journal and the State Society have grown and strengthened and attained eminence, in a way entirely unique. It is safe to say that the medical profession of Virginia owes very much to Dr. Edwards, and we are gratified to see that they are appreciating it, by sustaining his journal and his work as Secretary in a becoming way.

The course pursued by the Virginia profession in the renaissance of its Society, and the building up of the *Virginia Medical Monthly*, is worthy of emulation by other States, and in fact is looked up to by other States as an example well worthy of imitation. We rejoice with them in their successes, and believe that both have a brighter future, and that opposition to their course so far from lessening their ardor, will stimulate them to make new achievements.

We expect to notice the Transactions at some other time.

THE PHARMACISTS' LICENSE LAW.

We notice with great regret that the House of Representatives indefinitely postponed any action upon the law proposed for the protection of the public in their relations with the pharmacists.

We beg that the pharmacists will not be discouraged by this unceremonious rebuff, but that they will proceed to work in the direction of the education of the public in regard to their mutual interests. Let them organize more strongly, and commence by making rigid examinations of applicants for membership, so that

the certificates they issue will be equal in the eyes of the people to a diploma. Let them jealously guard the integrity of their profession, and correct abuses through the medium of their elevated membership, until a moral power will grow up around them. With this attained, they can then ask for legislative action with more prospect of success, and their experience will then lead them by a more sure road.

A TRIBUTE TO DR J. MARION SIMS.

MEDICAL SOCIETY OF SOUTH CAROLINA, }
 CHARLESTON, February 1st, 1881. }

At the regular monthly meeting of the Medical Society of South Carolina held to-day at 7 o'clock P. M., Prof. Middleton Michel, M. D., President, presiding, announced officially the arrival of Dr. J. Marion Sims in the city and that he was an invalid at the Charleston Hotel; and then referred in graceful terms to the character and professional attainments of this distinguished physician and surgeon.

The following resolutions were then offered by Dr. Francis L. Parker, and were unanimously adopted:

Resolved, That the Medical Society of South Carolina express to Dr. J. Marion Sims its appreciation of the eminent and distinguished services he has rendered to Medical Science, particularly as the originator and promulgator of the science of gynæcology, and the benefits he has conferred upon suffering humanity, and the honor he has reflected by his great abilities upon his native State, South Carolina.

Resolved, That this Society has heard with painful emotions of his recent illness; that it extends to him his congratulations upon his partial recovery, and sincerely hopes under the providence of God that his visit to his native Southern climate may restore him to health and continued usefulness in the profession which his originality and skill have contributed so much to elevate and adorn.

Resolved, That this Society tenders to Dr. J. Marion Sims a public reception at such time as he may designate.

Resolved, That a committee of three be appointed, of which the President shall be chairman, to present these resolutions to Dr. Sims with assurances of the respect and esteem of this Society.

On motion of Dr. John L. Ancrum, it was resolved that these resolutions be published in the daily papers.

MIDDLETON MICHEL, M. D., President,

FRANCIS L. PARKER, M. D.,

R. A. KINLOCH, M. D.,

Committee Medical Society of S. C.

JOHN FORREST, M. D., Secretary Medical Society of S. C.

VAUTHIER ON MAIZE AND MAIZENIC ACID.

The following are the conclusions drawn by Dr. Vauthier, in a brochure entitled, *Etude sur le Mais (Zea Maïs) et l'Acide Maizenique (Archives Med. Belges, August, 1880)*: 1. The action of Zea maize is always favorable in all affections of the bladder, whether recent or chronic. 2. Maizenic acid is the active principle of the stigmata of maize, and it alone contains the therapeutic properties. 3. The diuretic action is not constant; it is met with in cases of acute traumatic cystitis, and in cases of retention, but here the improvement in micturition is due to the recovery of the affected organs, and not directly to the action of the maizenic acid. 4. The best results are observed in uric and phosphatic gravel, in acute cystitis, whether simple or due to gravel, and in mucous or muco-purulent catarrh. 5. In the cases observed by the writer, the ordinary remedies for these affections had already been employed without benefit, while the maize never failed to effect a cure. In connection with the maize, simple and medicated vesical injections were employed. 6. Maizenic acid, moreover, has the power of dissolving calculi by its chemical action; and not only vesical calculi, but also all the other calcareous concretions that are met with in human system. Hence its use seems indicated in cases of gout and rheumatism, as well as in affections of the urinary organs. The preparations used by the author were the infusion (10 parts of corn-silk to 100 of boiling water, with syrup *ad libitum*; dose, a table-spoonful every two hours,) the extract in doses of one and one-half to three grains, and maizenic acid in doses of one-eighth of a grain in pill or mixture.

CLINICAL REPORT.

USE OF HOT-WATER VAGINAL INJECTIONS IN HABITUAL ABORTION.

Mrs. ——— was married in February, 1872, became pregnant some time during that year, and, from the effects of a fall, miscarried at about the eighth month. She again became pregnant, and miscarried at about the eighth month. She again became pregnant, and miscarried, without apparent cause, at the third month. This was repeated a third, and a fourth time; the miscarriages taking place at the second and seventh months, respectively. These accidents had now become so frequent, that when she became impregnated for the fifth time, she was advised to be more careful than she had hitherto been; and directions were given as to her mode of life, with the view of breaking up the habit. She followed the directions closely; but, notwithstanding, at about the fifth month she began vomiting, and continued to do so, until abortion was induced to save her from death by inanition. This was done at about the sixth month, and she was delivered of a dead foetus. A sixth time she became impregnated; and, after taking a long ride in a rough vehicle, miscarried at the second month. Some time during the month of March, 1880, she again became pregnant, for the seventh time; and on the 20th day of December, after a sharp labor of four hours, was delivered of a well developed and healthy daughter.

I give the history of this case in order to call attention to the treatment. After her first miscarriage, she suffered constantly with pain in the back and hips, and occasionally with leucorrhœa, which conditions were aggravated while in the state of pregnancy. No particular disease could be assigned as of sufficient gravity to cause such intolerance of the fruits of conception. Acting, therefore, on the strength of Emmet's assertion that "the use of hot water vaginal injections is equally beneficial in all those conditions which constitute the various forms of disease in the female organs of generation, and which are amenable to any treatment other than a surgical procedure," &c. (Prin. and Practice Gyn., page 123.) She was advised to inject one half gallon of water, heated to about

110° F., into the vagina, each night, at bed time. The result was as is stated above.

When the treatment was commenced, there was considerable complaint of pain in the back and hips, and some discharge from the vagina. The very first injection of hot water relieved this, to a certain extent, and in a few days there was marked improvement in her general condition. Several times during her pregnancy, she was threatened with miscarriage; but these threatenings always took place when the injections were neglected; and were invariably relieved by a return to the use of the hot water. The lady is firmly convinced that she would have miscarried again, had it not been for the injections, and is as strong a believer in the efficacy of hot water, as is Dr. Emmet himself.

I will not attempt to explain the rationale of the treatment, but refer the reader to Emmet's work.

I have never read or heard of the use of hot water under similar circumstances, and offer the above for what information it may contain.

D. M. PRINCE, M. D.

Laurinburg, N. C., December 29th, 1880.

THE NON-IDENTITY OF SMALL-POX AND COW-POX.

Sir Thomas Watson in the *British Medical Journal*, Jan. 17th, 1880, declares that vaccine disease is *sui generis*, and in no sense owes it origin to small-pox. He says the attempts made forty years ago to procure fresh lymph for vaccination purposes, by inoculating the cow with the virus of human small-pox were a mistake; * * * that the ensuing so-called vaccination was not vaccination at all, * * * but the introduction of small-pox to the community * * * to multitudes of places to which otherwise it might never have come.

We are glad to see this candid recantation of the theories of the of the identity of cow-pox and small-pox by this eminent teacher. The conclusion to which he gives his assent so late in the day, has been sufficiently demonstrated in Virginia and North Carolina during the last twenty years.

CORRESPONDENCE.

“WHO FIRST DESCRIBED MALARIAL PUERPERAL FEVER?”

POSSUM TOWN ON GOOSE CREEK, STATE OF GEORGIA,
February 8th, 1881.

Mr. Editor :—If it is not against all rule and precedent, Goose Creek would like to be heard from. Although we are a little on the outside, your journal reaches us every month, and therein we frequently find something which sets us a thinking. The last thing which we noticed most and which stirred up our rustic gall was a paragraph headed, “Who First Described Malarial Puerperal Fever?” Now this name was something new to me, so I took the journal and rode over to see neighbor Muzzleton who constitutes the other half of Goose Creek faculty. Old friend Muzzleton, take him all in all, is a pretty knowing kind of a doctor, even if I do occasionally call him an old foggy when he is called to see some of my best paying patients. The old gentleman adjusted his spectacles and assumed that look of professional sapiency which is so becoming to a medical man when he is about to be delivered of an opinion. Says he, to me, “My dear friend and fellow-worker in the pathologic vineyard, this name to me has a sort of ‘queer sound.’ You know it has been a long time since we went to college and gathered knowledge as it fell from the lips of our venerable professors, and may be that while we have been out in this far away place, doing good to patients and gathering up the small change of the country, that the tireless energy, and restless industry, which is so characteristic of the modern disciple of our glorious and self-sacrificing profession, has led some one of them into fields of physiological research and they have discovered a new meaning to old time words and a better way of compounding or fusing them, than any with which we are acquainted. Nevertheless, notwithstanding the possibility of such being the case it will not prevent our discussing the matter and seeing if we can learn anything about it.”

“Friend Muzzleton,” says I, “don’t it strike you that if we call it puerperal fever when it develops in a system already impregnated with the materies morbi of intermittent fever, malarial puerperal

fever when it develops or follows close after an amputation, amputating puerperal fever."

Says he to me, "Friend Roper, I think your reasoning is very just and cogent; there is also another point to which I would like to direct your attention. If this name is applied to intermittent fever, which as you know, frequently develops a day or two after childbirth, the attachment of puerperal seems unnecessary and uncalled for. It is a fact, easy of demonstration, and one that is patent to the most superficial observer that it requires in this section, at least, a very small amount of enterprise to develop malarial fever after childbirth or even after much slighter provocation."

At this point in the discussion we concluded that it would be just as well for us to search Dunglison, and see what he had to say about the meaning of malaria and puerperal. We found, and desire to tell it, for the benefit of those who don't know as much Latin as Dr. Muzzleton and I, and Dunglison, that malaria simply means bad-air or miasm, and that puerperal means child-bearing and that the term puerperal fever can with propriety be applied to any fever that occurs after child-bearing, but is generally restricted to a malignant peritonitis. We both came to the conclusion that the substance called malaria or miasm unless it had changed its system of warfare, never could, and never would, produce an inflammation of a serous membrane. We looked at things in another light, and, Mr. Editor, we want to know if we have struck the nail on the head. We know that the expression, malaria or miasm, is rather an indefinite term, and is it possible that a new kind is pervading the atmosphere which causes child-bearing to be followed by a fever? Dr. Muzzleton and I have lately been observing that a great many of the young ladies of our section look as if they were suffering from enlargement of the spleen, but we have been ascribing it to the time of year and the fact that we had a camp meeting about six months ago which lasted about three weeks, is it possible that we are about to have an outbreak of a new disorder? If there is anything in this last supposition please let us know, we want to prepare ourselves for the emergency. Although such an epidemic will give us a great deal of work to do, we can't help thinking that it would be best all round if puerperal fever would continue to be brought about by the old-fashioned natural cause.

Yours Respectfully,

SIMON ROPER, M. D.

REVIEWS AND BOOK NOTICES.

THE ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF SOUTH CAROLINA. For the Fiscal Year ending October 31, 1880, and Inclusive of the Fiscal Half-Year ending October 31st, 1879. To the Legislature of South Carolina. Columbia, S. C. : Presbyterian Publishing House 1880. Pp. 87.

This report is the pioneer one of our sister State, and has the ring of true metal about it, and shows throughout a spirit of determination which must eventually crown the Board of Health with success. We find the experience of this Board to run parallel, in many respects with the North Carolina Board.

The following quotation is applicable to her sister States :

" Whenever the medical profession, prompted by humane principles which are its guide at all times, endeavors to exert its influence in behalf of preventive medicine, cavillers spring up and paralyze its efforts. Their motives are often misconstrued by leaders of public opinion ; for the common mind does not seem capable of grasping the idea of unselfishness, which is involved in their efforts to war with the stern, inexorable enemy, which lurks in the soil, water, and air, and is slowly, yet relentlessly, undermining their health, destroying their happiness, ruining their material interests, and crippling their progress."

The measures proposed by the Board looking to the sanitary improvement of the people, is a law (*first*) to protect the people of the State, " especially that portion which has not yet reached adolescence," from the possible ravages of small-pox. *Second*. A sanitary code of ordinances " declaring in plain and unmistakable terms the meaning of various nuisances endangering public health, defining the degrees of gravity, and apportioning the punishment for their violation." *Third*, the organization of a system for the collection and registration of vital statistics.

The report goes on to say in this connection :

" To medical science such statistics would prove of great value in the elucidation of the etiology and prognosis of our endemic diseases. This no one will gainsay. But the political economist will derive important aid from exact statistical data, which will enable him to demonstrate to the world the salubrity of our climate, and its influence upon the physical and mental condition of the people. As has been well said by Dr. Chaille : ' Public Hygiene derived its birth from, and depends for its future progress, on Vital Statistics, and every argument which favors the establishment of Boards of Health, is an argument in behalf of Vital Statistics, for while a Board of Health without them is as helpless as a man without eyes to guide him, so without Vital Statistics the public is destitute of the only valid test of the value of a Board of Health. If a human being is much more valuable to the State than is

a bale of cotton, then statistics of the human crop would prove much more valuable than statistics of the cotton crop; and yet every newspaper can and does furnish statistics of the cotton crop, such as no man can now anywhere procure as to our human crop. Vital Statistics furnish unerring lessons as to health, prosperity and morals of the people; they teach the influence of marriage on illegitimacy and morality; the fecundity of a whole people and of the races thereof; the vital force of children; the duration of life, with its expectations and value for all ages and races; the influence of meteorology, occupation, locality, in generating disease and improving health, and thereby the removal of unfavorable conditions, always found, even where least expected; and the approach of morbid storms, by ignorance of which negligent cities, and even nations, have been destroyed. The only foundation of life insurance, Vital Statistics serve alike to guide the resident and the immigrant, the capitalist and the laborer, the politician and the statesman, the scientist. Ignored and disparaged by the average American legislator, they have been advocated and supported by Napoleon and Thiers, by Bismarck and Cavour, by Gladstone and Disraeli; and their establishment has become a test of the degree of civilization reached by a people and their rulers."

A most excellent code of ordinances is given, covering the following topics: 1. Against the manufacturing or selling of adulterated medicines, or administering medicines otherwise than as provided by law, or selling poisons for other than artistic, mechanical, or agricultural purposes without the prescription of a physician. 2. Any wells, springs, streams or waters used for drinking or culinary purposes, which have been rendered impure or unwholesome, shall be deemed nuisances, and against the wilful or malicious pollution of such waters. 3. The rendering of fat from dead animals within corporate limits except under certain restrictions. 4. Against the non-provision for easy egress from theatres and public buildings, by doors opening outwards. 5. Any house or building where people live or assemble not being provided with a sufficient number of privies shall be deemed a nuisance. 6. Against the inadequate, insufficient or obstructed drain-pipes, soil-pipes, &c. 8. Against the uncleanly condition of slaughter houses. 9. Against the slaughtering of animals anywhere except in slaughter-houses. 10. Unclean or filthy sidewalks, gutters, or premises shall be deemed nuisances. 11. Against the uncleanly condition of tanneries. 12. Against the establishment of houses for boiling animal matters, for making glue, for making lampblack, varnish or other substances from which emanate foul gases. 13. Against filling lots or streets with garbage. 19. Against the sale of meat of diseased animals. 20. Against the slaughtering of disease cattle.

The report of the Committee on Quarantine, by Dr. R. L. Brodie,

reviews the history of quarantine and sets forth the condition of the quarantine in South Carolina.

The report of the Committee on the Sanitary Condition of State, Penal and Charitable Institutions, is by B. W. Taylor, M. D., and shows how necessary, for the cause of humanity, the inspection was. The revelation of filthy and unhealthy practices here disclosed, is too sickening to rehearse, but if the State of South Carolina does not award her Board sufficient means for future work, in recognition of these offices of mercy already done, it will be shameful.

The "Collated Statements of Reports from Sub-Boards of Health" upon the subject of vaccination is important, disclosing the fact that this most important preventive measure is greatly neglected.

We are glad the following report from Bennettsville, does not express the views of many reporters from sub-Boards :

"*Bennettsville*.—The practice of vaccination has been entirely dispensed with. Probably nine-tenths or even a larger proportion of our population are unvaccinated. Notwithstanding the statements given regarding variola and vaccination are entirely true. It is still the opinion of this Board that general vaccination is unnecessary, and that its compulsory practice would be unjustifiable in view of the facts, that there is now no small-pox in the country, and that it is of very rare occurrence in this section. This Board cannot, therefore, join in recommending legislative action looking to the practice of general vaccination in our county at this time. Remote as we are from the great thoroughfares of traffic and travel, there is, perhaps, less danger of small-pox and less necessity for vaccination here than in any other portions of the State."

It is hardly credible that this late in the history of the world an educated physician could entertain such an opinion as the above.

The South Carolina Board of Health has done excellently well, and we congratulate its members upon their first work.

LECTURES ON THE SURGICAL DISORDERS OF THE URINARY ORGANS. By REGINALD HARRISON, F. R. C. S. Second Edition. Considerably Enlarged. London : J. and A. Churchill, New Burlington Street. 1880. 8vo. Cloth. Pp. 400.

We have in this volume a series of lectures of the most practical character. The reader is led on by the easy style and direct and impressive manner of the author, and the exceptionally clear type in which the text is set, almost unconsciously to the end of the volume. No obtruse pathology burdens the pages, no vexatious partisans discussion of surgical methods or priority of inventions.

The author has excluded the treatment of venereal diseases, and confines himself to teaching the definition, classification, examination and treating of strictures of the urethra, noticing in turn all the methods of gradual and continuous dilatation, and cutting, down to the most recent publication ; injuries to the urethra, such as ruptures and contusions, perineal fistulæ ; foreign bodies in the urethra and bladder ; hypertrophy of the prostate and inflammation of the bladder ; on the formation, constitution, spontaneous fracture of calculi ; of stone in the kidney, and calculi impacted in the ureter ; of the symptoms of stone in the bladder, and the sources of error in sounding ; on lithotomy, litholopaxy ; on stone in females ; on injuries to the bladder, the ureter and kidney ; on tumors of the bladder and prostate, and scirrhus and medullary cancer ; on circumcision, hypospadias and epispadias, and amputation of the penis. These are some of the headings of the subjects treated.

He says of treating stricture by continuous dilatation :

"I have found its results compare favorably with those obtained by the gradual method. In the latter, it is only in the early stages of the diseases that absorption is obviously promoted ; in the latter stages the stricture is merely stretched to the desired extent. In continuous dilatation I believe that not only is absorption promoted, but what is left behind of the stricture-material is less disposed to contract again."

"By what means can scar-tissue be more nearly assimilated to healthy tissue and be deprived of its contractility ?" is a very pertinent question which the author asks and which he answers as follows :

"As a topical application, I have used belladonna with benefit in some of the more obstinate forms of stricture, especially those consequent on injuries of the urethra. * * * * It is not to any anti-spasmodic influence it may possess that I purpose to allude, but to the power which I believe it has of directly influencing and effecting a change in the obstructing material. I was first induced to give it a trial in these cases by observing the benefit that followed its application to cicatrices and growths of a fibrous character resembling them. * * * * I have used it with undoubted advantages in other cases, and I therefore had reason for anticipating an equal benefit from its application to internal cicatrices that gave rise to inconvenience. * * * * Dilatation simply *stretches* the cicatrix" (in strictures following injury to the urethra) "without in any way depriving it of that contractile power which is the essence of the disorder."

"The most convenient way of applying belladonna is with oleum theobromæ, which is sufficiently hard at ordinary temperatures to permit of its ready introduction into the urethra. I generally recommend two grains of the extract to be used in this way twice a day, in conjunction with dilatation by bougies; the belladonna should be persevered in after the bougies have been discontinued."

Mr. Harrison does not concur in Dr. Otis' opinion that recent strictures are best treated by urethrotomy. Mr. Harrison believes that recent stricture in its earliest form is curable, provided that dilatation by bougies is sufficiently carried out, and that internal urethrotomy should be reserved for strictures not likely to be benefited by dilatation.

This volume illustrates to the best advantage the difference between mere originality, authorship, and good teaching of the most practical sort, directly to the point, and if we are not greatly mistaken the author will have the pleasure of seeing many editions exhausted.

The illustrations, with the exception of the reproduction of the side view of the male pelvic organs, after Gray, are very creditable.

HAND-BOOK OF SYSTEMATIC URINARY ANALYSIS, CHEMICAL AND MICROSCOPICAL. For the use of Physicians, Medical Students and Chemical Aspirants. By FRANK M. DEEMS, M. D. Laboratory Instructor in the Medical Department, University of New York. New York: Industrial Publishing Committee. 1880. Pp. 30.

The arrangement of this little work greatly facilitates the ready and consecutive examination of urine for different substances suspected, chemically and microscopically. As compared with the more elaborate manuals which have appeared lately it has many advantages as a direct and accurate guide to complete and thorough investigation.

For Removing Nitrate of Silver Stains.—Ten parts sal ammoniac and ten parts of corrosive sublimate in one hundred parts of water, will remove silver stains from the hands and linen without damage.—*American Journal Pharmacy.*

DR. ROBERTS BARTHOLOW'S CARTWRIGHT LECTURES ON THE ANTAGONISM BETWEEN MEDICINES, AND BETWEEN REMEDIES AND DISEASES.

The above named lectures have appeared in the *Medical Record*, the *Boston Med. and Surg. Journal*, and more notably in the *New York Medical Journal*. The latter journal contains the complete lectures in the January and February numbers, and the typographical excellence of the work is to be especially mentioned.

Dr. Bartholow in inaugurating these lectures announces that "the Cartwright Lectures, will be expected to take and maintain an honorable position alongside of the Gulstonian, Lumleian, and other courses, which have done so much for English medical science and literature." These lectures it will be remembered were endowed by a legacy from Mr. Cartwright, of New Jersey, and the inauguration of the courses by selecting Dr. Bartholow as the first lecturer is an excellent beginning. We regret that our space will not permit their reproduction entire, and we shall be content with giving a mere outline of them, realizing at the same time, that this meagre sketch must fail to do justice to so valuable a paper.

"By physiological antagonism is meant a balance of opposed actions on particular organs or tissues. As disease is a pathological physiology, so far, at least, as relates to function, the derangements produced by disease may be opposed by other derangements set up by medicinal substances. The antagonism, or opposition of actions, may extend throughout the whole range of effects, or it may be limited to a few points. Indeed, some of the most valuable instances of antagonism are thus limited, and there are few, if any, examples of antagonism in which the opposition of actions is universal. In popular medical opinion, by the term physiological antagonism is meant an opposition of action of poisonous medicinal agents, in that the effects of the one may be exactly counterbalanced by the effects of the other. According to this conception of the subject, when a lethal dose of one agent is administered, the effects may be removed by an opposing agent so given as to produce exactly opposite effects. Therefore, the poisonous action ceases, because in the whole range of the effects of the two agents they are exactly antagonized. This conception of physiological antagonism is exaggerated—for such completeness of opposing action is as rare as exact similitude in remedies acting in the same way."

Then follows a historical sketch of the origin of the teaching of the doctrine of contraries, first by Fernel and then by Hahnemann, until Bichat comes upon the stage as a teacher of modern physiology, paving the way for the first physiological study of remedies by his pupil Magendie in 1808-'9. To Dr. Graves, of Dublin, we owe the first really scientific suggestion of an antagonism. He supposed that the state of the pupil would afford an indication in fevers of the need of opium or belladonna—the former to be given when the pupil was dilated; the latter, when it

was contracted. Acting on this subject, Dr. Thomas Anderson, of Edinburgh, employed belladonna against opium poisoning—a mydriatic against a myosotic—with success.* After that time observations were multiplied, the most important contributions, extending over a period of ten years, were from the pens of Drs. Mussey, of Cincinnati; Benj. Bell, of Edinburgh, C. C. Lee, of Philadelphia, and Wm. F. Norris of the same city.

The following is a concise summary of the antagonism between

OPIMUM AND BELLADONNA:

Morphia and atropia are antagonistic in their effects on the cerebrum, and the result of the antagonism is to induce sopor; but this deeper, into coma if the quantity used is larger, and hence the antagonism does not extend to lethal doses.

They are antagonistic in their action on the pupil (though this is not constant), and the effect of the atropia preponderates.

They are antagonistic in their action on the heart, but the effect of atropia is more powerful and prolonged.

They are antagonistic in their action on the respiration; morphia showing the respiratory movements and diminishing the excretion of carbonic acid, and atropia increasing the respiratory movements and the excretion of carbonic acid.

They are antagonistic in their action on the arterial tension; opium slowing the heart and paralyzing the arterioles, and atropia counteracting these effects.

Atropia prevents, to a very large extent, and often completely, the depression, cold-sweating, and cerebral nausea caused by morphia.

Morphia and atropia are antagonistic in their action, on the kidneys, the one diminishing and the other increasing the urinary discharge. They differ also in their action on the bladder, the one dulling the sensibility of the mucous membrane and impairing the vigor of the muscular coat of the viscus, and the other stimulating the sphincter. They are not, therefore, antagonistic in their effect on the bladder.

In therapeutics these antagonistic actions may be utilized to secure effects which cannot be obtained by the employment of either agent alone. The whole subject affords a beautiful example of the success of the methods employed by modern pharmacological research to improve our knowledge of the action of the oldest remedies, and to increase the safety, certainty, and range of their applications to the treatment of disease.—*Med. Record*, Nov. 27, 1880.

The antagonism of *atropia* and *physostigma*, and *pilocarpia* and *muscaria*, and *quinia*, and *bromal hydrate*, and *aconitine* is next treated. The following summary of the results of the various researches on the antagonism of atropia and physostigma may be regarded as established.

“1. That physostigma, or eserine, and atropia are antagonistic in their effects on the pupil. 2. That they act differently, but probably not antagonistically, on the heart, unless we accept the views of Kohler and Bezold and Bloebaum—the former maintaining that physostigma paralyzes the accelerator nerves of the heart, and the latter that atropia stimulates these nerves. 3. That they are opposed in their action

*North Carolina Medical Journal, October, 1838. Page 152. Old Series.

on respiration, physostigma paralyzing, and atropia stimulating, the respiratory function. 4. That they are not opposed in their action on the cerebrum, atropia producing delirium, and physostigma having no effect on the cerebral functions, while both cause more or less carbonic acid narcosis. 5. That they act differently and not in an opposed manner on the spinal cord and nerves, both producing paralysis, but atropia does, and physostigma does not, impair the irritability of motor nerves. As regards the sensory nerves, physostigma augments the irritability, while atropia seems rather to lessen it, if any effect is produced. 6. That they act oppositely on secretion, physostigma stimulating and atropia arresting the secretions in general.

"It follows from these conclusions that the lethal effects of physostigma, due to paralysis of respiration, are overcome by atropia by sustaining the respiratory function. The Committee of the British Medical Association assert that 'the antagonism exists within very narrow limits, but this happens to be sufficient to avert death, when doses little more than lethal have been administered; still, the use of physostigma against the lethal effects of atropia is of doubtful propriety. The paralyzing effect of physostigma on respiration may, doubtless, be successfully overcome by suitable application of atropia.'"

The first experiments to determine the antagonism between *pilocarpin* and *atropia* were performed by Vulpian.

"I have already indicated some points of similarity of action between pilocarpin and atropia—the quickened heart and flushed face—but these, as has been shown, are apparent and not real. They both agree, however, in the insusceptibility of children to their action. The observations of Ringer and Gould are very precise in regard to this insusceptibility of children to the action of *jaborandi*. They found that the quantity which suffices to produce profuse sweating in adults affected children very slightly or not at all. Children are equally insusceptible to the effects of belladonna.

"To sum up the results of the investigation, we find that belladonna and pilocarpus are antagonistic in their action: 1. On the secretions, especially of sweat and saliva, pilocarpus promoting, and belladonna arresting them. 2. On the heart and arterial system, pilocarpus slowing and enfeebling the heart and depressing the vascular tonus—belladonna stimulating the cardiac movements and raising the arterial tension. 3. On the eye, pilocarpus contracting the pupil, inducing spasm of accommodation, and approximating the nearest and most remote points of vision—belladonna dilating the pupil, paralyzing accommodation, and making the vision presbyopic.

On the brain there is no real antagonism. The excitement, the delirium with hallucinations and illusions, and the subsequent coma, caused by atropia, are not affected by any of the actions of pilocarpin. The soporose state brought on by the latter, as I have pointed out, is a secondary effect, the result of exhaustion and cerebral anæmia.

ATROPIA AND MUSCARIA.

Muscaria, the active principle of the poisonous fly-mushroom, was discovered by Schmiedeberg, and Koppe, and its physiological action was first made known by Schmiedeberg. Muscaria has strong alkaline and basic properties, uniting with acid to form salts, which are very deliquescent.

When we compare the disturbances of function caused by muscaria

with those produced by atropia, no example of physiological antagonism could be more exact. *On the brain*, the intoxication, with cerebral anæmia of muscaria is opposed by active delirium and cerebral hyperæmia of atropia. *On the eye*, the contracted pupil of muscaria, is opposed by the dilated pupil of atropia. The effect of atropia on the eye is relatively more powerful, for, when the pupil is contracted by muscaria, it can be dilated by atropia, but when dilated by atropia, it cannot then be contracted by muscaria. On the function of *secretion*, the antagonism is not less striking. Muscaria promotes the salivary secretion by stimulating the end organs of the nerves in the gland, and atropia arrests this secretion by paralyzing these nerves; but when the salivary secretion is arrested by atropia, muscaria cannot re-establish it, yet the secretion caused by the latter is promptly arrested by the former. This opposing mechanism probably extends to the hepatic and pancreatic secretions as well. The intestinal cramp caused by muscaria is removed by atropia. On the heart nothing can be more perfect than the opposing actions of these agents. If the heart is arrested in the diastole by muscarine, it is started again by atropia. If an animal is first brought under the influence of atropia, the heart is not stopped by muscaria, notwithstanding it is so readily poisoned by this agent. The antagonism is equally exerted on the respiratory movements and finally arrests them, while atropia stimulates these functions. Thus, viewed from all sides, these agents are exactly antagonistic.

ATROPIA AND QUINIA.

The physiological aspect of this antagonism is treated. Pentelejeff ascertained that quinia arrests the heart in diastole, and that the subsequent administration of atropia causes the heart to resume its contractions. * * * Quinia causes a rise of blood pressure, after a brief preliminary fall, and atropia retards it.

BROMAL HYDRATE AND ATROPIA.

1. There is a distinct physiological antagonism between bromal hydrate and atropia. 2. After a fatal dose of bromal hydrate, the introduction of atropia arrests excessive secretion from the salivary glands and mucous surfaces of the lungs, and thus obviates the tendency to death from asphyxia caused by the accumulation of fluids in the air passages. Atropia also causes contraction of the blood-vessels, and thus antagonizes the action of bromal hydrate, which causes dilatation of these vessels by paralysis of the sympathetic nerve. 3. While atropia may save life after a fatal dose of bromal hydrate, the converse apparently does not hold good, as we never have succeeded in saving life after a fatal dose of atropia by the subsequent injection of bromal hydrate.

ATROPIA AND ACONITE.

The lecturer is indebted to Dr. J. Milner Fothergill for the physiological antagonism of atropia and aconite. Small doses of atropia, he found, had very striking effects on animals to which lethal doses of aconitine had been previously administered. The animals all recovered from doses of aconitine which subsequently killed them all where administered without atropia. It was found, however, that if the administration of atropia was delayed beyond sixteen minutes it was powerless to arrest the lethal action of aconitine.

In the discussion of physiological antagonisms thus far, atropia has been one of the agents concerned in every instance. But atropia also represents a group. One of the triumphs of modern organic chemistry is the reconstruction of organic alkaloids by synthesis, the physiological demonstration confirming, in the most unmistakable manner, the accuracy of chemical methods. Atropia has been thus reconstructed synthetically from two seconded products. Not less interesting is the demonstration that apparently different alkaloidal principles, obtained from separate and independent sources, are the same. Atropia, daturia, and hyosciamia, are thus shown to be identical in chemical composition. These, however, are so closely related in origin that identity of composition is not surprising. A new mydriatic has been recently discovered, whose relationship to atropia, on the physiological side, is most intimate—*duboisia*, the alkaloid of *duboisia myoporoides*. This new principle has the same power to dilate the pupil, to paralyze the accommodation, to produce a busy delirium, with hallucinations and illusions. It has, also, the same power to increase the rate of cardiac movement, to raise arterial pressure, and to flush the surface, to produce the same stimulating effect on the respiratory function, the same rise of temperature. It has also the same effect on secretion, and dries the mouth and fauces in the same degree. Besides its more ready influence on the pupil, the more rapid decline of its effect, and its less irritating action on the conjunctiva, besides its less deliriant and greater hypnotic power, *duboisia* seems to have the same physiological effects as atropia. The late researches of Ladenburg seem to prove that *duboisia* is identical with *hyosciamia*. In the whole range of the wide antagonisms of atropia, *duboisia* may take its place, and the facts true of atropia are applicable to *duboisia* and also to *hyoscyamia*. *Duboisia* may, therefore, be substituted for atropia in the antagonism with morphia, with physostigma, with pilocarpia, with muscaria, with quinia, with bromal hydrate, and with aconite. Special researches have been conducted with *duboisia* in respect to the antagonism with muscaria and with pilocarpia. It exhibited in these trials precisely the same powers as atropia, although, on the whole, it acted somewhat more energetically in corresponding doses. Thus, in a short time after its introduction to

professional notice, duboisia is as fully understood, in respect to its powers and uses, as belladonna after centuries, but the one is studied by the modern physiological method, and the other, coming down with vague traditions and baseless theories, is only properly understood at last when the progress of physiological research enables new investigations to conduct to right conclusions.

CHLORAL AND STRYCHNIA, CHLORAL AND PICROTOXINE, CHLORAL AND ATROPIA. OPIUM AND VERATRUM VIRIDE, OPIUM AND GELSEMIUM, OPIUM AND ACONITE, MORPHIA SUBCUTANEOUSLY AND CHLOROFORM BY INHALATION.

Chloral Hydrate and Strychnia.—The discovery of chloral hydrate and the subsequent announcement of strychnia as its physiological antagonist, made by Liebreich, have been followed by numerous researches, monographs, and clinical reports, so that the literature of chloral is already enormous. A review of the work done in this direction then follows, the report of the Committee of the British Medical Association through Chairman Dr. Hughes Bennett is given in detail.

"If now we sum up the evidence, we cannot fail to be convinced of the antagonistic action to chloral poisoning. The experience on rabbits shows that 1-96th grain of strychnia is equivalent to fifteen grains of chloral. In the cases of poisoning in man, thirty grains of chloral subcutaneously was sufficiently to allay the spasms and avert death from four grains of strychnia. But no absolute rule can be laid down, since the susceptibility to the action of these poisons varies greatly in different individuals. As in the published cases emetics were used, and in many instances the quantity of strychnia was merely estimated, no positive conclusions can be drawn from them. Artificial respiration materially retards the action of strychnia, and warmth, as Brunton has shown, exercises a remarkable influence in lessening the effect of chloral. Thus, Dr. Brunton found that an animal wrapped in cotton wool may recover perfectly from a dose of chloral which is sufficient to kill it when exposed to the cooling action of the air, and that recovery from the narcotic action is much quicker when the temperature is maintained in this way, and still more rapid when the animal is placed in a warm bath, provided this is not excessive." Heat would, therefore, seem to be an antagonist to chloral, and for an obvious reason, for heat increases the action of the heart, and thus opposes the depression of the heart, which is a main factor in the toxic effects of strychnia by chloral, the amount of the latter administered should be determined by the symptoms. Sufficient chloral should be given to suspend the strychnia spasms, for the danger consists in the stoppage of respiration by tetanic fixation of the respiratory muscles. When strychnia is used against chloral poisoning, the objects to be accomplished are different. By stimulating the cardiac and respiratory centres with strychnia,

the tendency to cardiac and respiratory failure is prevented. The quantity required will be determined by the effects; but it is probably much less than theory indicates. The initial dose may be 1-60th grain, and each succeeding dose 1-120th grain, which may be repeated every half hour, or more frequently, until an approximation to the maximum is reached.

Chloral and Picrotoxine.—Picrotoxine, the active principle of *cocculus indicus*, is not properly an alkaloid, and does not combine with acid to form salts. It has distinct deliriant and stupefying effects on the cerebrum, and causes epileptiform or tonic and clonic convulsions, followed by coma and insensibility. The reflex functions are suspended by it; finally the motor nerves lose their irritability, and the sensory nerves are early affected, their power to transmit peripheral impressions disappearing in the beginning of its action.

Dr. Crichton Browne, after an elaborate investigation summarizes his views as follows: "Chloral hydrate is physiologically antagonistic to picrotoxine in rabbits and guinea-pigs, and may save life when administered fifteen to twenty minutes after a fatal dose of the latter. There is no antagonism exerted between these two agents on cats, death being caused by paralysis of the heart, a result in which both participate.

Picrotoxine is not used with criminal intent, and its scarcity renders accidental poisoning unlikely.

Chloral and Atropia. * * * While the good effects of atropia in preventing death from chloral by failure of the heart's action, or of the respiratory function, are probably very great, the converse is not necessarily true. Although there are no experimental or clinical facts, it must be evident that chloral can act only as morphia does under the same conditions, i. e., moderate the strain on the cardiac and respiratory centres produced by the excitant action of atropia. This is a less important service than that rendered by atropia in chloral narcosis, but is nevertheless, highly useful. The dose of atropia in chloral narcosis and the frequency with which it is to be repeated depend on the effects produced. A small dose, repeated at short intervals, until the characteristic effects on the pupil, mouth, heart-beat and respiration are produced, and then awaiting the antagonistic action, is better practice than the administration of a large dose at once. * * * In a number of experiments on this point, I have found that morphia and chloral are synergists, or promote each other's activity, and that they can be more safely administered by combination with atropia, which counteracts the cardiac and respiratory depression caused by them, and which constitutes the great danger in their use in man, as in the inferior animals.

Opium and Veratrum Viride.—It has long been known to practical physicians in this country that the tincture of opium counteracts the

depression of the circulation caused by *veratrum viride*. I cannot trace it to its original source.*

The antagonism between opium and *veratrum viride* is clearly established, but the distance apart at which their effects are exerted has not been definitely ascertained—most of my experiments being performed by the simultaneous administration of the two agents. It is ascertained that, whether opium be used against *veratrum viride*, or *veratrum* against opium, the antagonistic action is equally displayed.

The suggestion as to the dose is contained in the following :

An adult female, aged thirty, took a quantity of laudanum, supposed to be about two ounces, and was in a condition of profound narcosis, respirations only $3\frac{1}{2}$ a minute, when six drops of *veratrum* tincture were injected subcutaneously. In a half hour she could be nursed, but lapsed back immediately into a comatose state, and, as she could then be induced to swallow, three drops of the tincture were given every two or three hours by the stomach until she recovered entirely, which occurred in a few hours. The whole amount of *veratrum* administered did not exceed fifteen drops.

Opium and Gelsemium.—*Gelsemium* is more distinctly a paralyzer than *veratrum*, but they differ also in important particulars. *Gelsemium* causes dropping of the upper eyelid, dilatation of the pupil, and diplopia, by paralyzing the third nerve. The cerebral effects are vertigo, drowsiness, and stupor; but no disturbance of intellect results from it, although a comatose state is brought on by carbonic-acid narcosis. *Gelsemium* paralyzes respiration, this function ceasing before the heart's. It is not an arterial sedative, as usually supposed, the depressed circulation being secondary to the respiratory depression. The paralyzing action of *gelsemium* is spinal, since neither the motor nerves nor the muscles are affected. It is obvious that opium, in ordinary medicinal doses, antagonizes the action of *gelsemium*, prevents the respiratory and cardiac depression, and averts death, unless the nervous centres are entirely overwhelmed by the amount of the poison.

A case is cited in which a physician took by mistake a teaspoonful or two, or probably a tablespoonful of tincture of *gelsemium*. Two grains of morphia, hypodermically, and one-half grain by the mouth were given, overcoming the poisonous symptoms. The dose of morphia seems rather excessive.

Morphia and Cocaine, Theine, Caffeine, and Guaranine.—These alkaloids are somewhat identical, and morphia antagonizes some of their actions and promotes others. The only positive knowledge is that theine is antagonistic to meconate of morphia, and that the action of one so far modifies that of the other as to save life after a fatal dose of either.

*Probably first noticed by Norwood, who introduced *veratrum* into practice.

[To be continued.]

CURRENT LITERATURE.

ROCHARD AND LITTLE ON THE TREATMENT OF ABSCESS OF THE LIVER.

In a recent communication (*Bulletin de l'Académie de Médecine*, No. 43, 1880), M. J. Rochard describes the treatment of hepatic abscess by free and direct incision, combined with the practice of Lister's antiseptic method. Three cases are reported, in which this treatment was carried out with complete success by Dr. Stromeyer Little, of Shanghai.

Abscess of the liver, M. Rochard states, when not treated surgically, causes death in about 80 per cent. of the cases. The old methods of surgical treatment have not reduced this rate of mortality to any great extent; certainly, in cases of large abscess, to not less than 68 per cent. Consequently, surgeons have not been eager in interfering, and some, with Dr. Maclean, in consideration of the prolonged suppuration resulting from the opening of a large hepatic abscess, and of the putrefaction of pus and the gangrene consequent on the penetration of air into the large cavity, have declined to intervene. Most surgeons who have to deal with cases of this kind, so, wait until œdema and redness of the abdominal wall have indicated the point to which the pus is making its way, and often whilst waiting lose their patient, or find that the abscess has burst internally. Finally, in cases where such practice is successful, the cure is attained at the price to the patient of many months of suffering and danger. A method which would permit the surgeon to act in good time, to operate with certainty, and to effect a cure within one month, must be regarded as constituting considerable progress. That such progress has been made seems, according to M. Rochard, to be proved by the results of the treatment carried out in the three recorded cases. Dr. Little had previously treated twenty cases of hepatic abscess either by frequently repeated puncture and aspiration, or by incision without any antiseptic precautions. All the patients died with the exceptions of one, in whom a small abscess with a chronic course projected into the epigastric region, and was opened there without any bad results. In his three recent cases, Dr. Little, had recourse to the method described

and discussed in M. Rochard's communication. This method consists in determining, with as much precision as possible, the seat of the purulent collection; in verifying the diagnosis by puncture and aspiration; then using the needle as a conductor, making a free incision into the abscess, clearing out all the contents, and, finally, preventing consecutive mischief by antiseptic injections, drainage, and Listerian dressings. The diagnosis of abscess of the liver, M. Rochard points out, is not easy. Local pain is not manifested until the pus has reached the surface of the organ, and perihepatitis has been excited. This symptom is often absent, even in cases of very large hepatic abscess. Reflex pain in the right shoulder, also, is very frequently absent. The only symptoms on which reliance can be placed, are increase in the size of the organ, digestive and respiratory disturbances and fever. In most of the cases, the hepatitis succeeds dysentery or dysenteric diarrhoea. When, in a subject who has suffered from either of these affections, fever occurs, the digestion becomes disturbed, and the liver enlarges, it may be concluded that hepatitis has been developed. If the fever present a remittent character, with evening exacerbations, preceded by rigors and followed by sweating, the formation of an abscess should be expected, and steps at once taken to test this diagnosis by puncture and aspiration. The abscess is situated in the right lobe in seven out of ten cases, and in most cases projects at the convex surface of the organ. The dulness then extends towards the nipple, and is bounded by a curve with its convexity upwards. The patient is troubled by cough, dyspnoea, and pain during inspiration, and occasionally auscultation and percussion reveal the signs of diaphragmatic pleurisy. In a case of this kind, the most favorable seat of an exploratory puncture would be the eighth or ninth intercostal space, in a line with the anterior border of the axilla. When the purulent collection projects at the concave surface of the liver, the false ribs are expanded, and the extent of the swelling may be made out by palpation. The spontaneous pains, when they occur, radiate towards the iliac fossæ and the sacral region. Vomiting is a frequent symptom. An exploratory puncture in such case is best made below the margin of the eighth rib, and at the point where there is tenderness on pressure.

The preliminary puncture is made by Dr. Little with a needle

about three millimètres in diameter, the instrument having been dipped in carbolic oil, and the integument of the right hypochondrium washed with a 5 per per cent. solution of carbolic acid. It is often found necessary to introduce the needle several times before pus can be obtained. These repeated punctures of the liver, as has been proved by the observations of Jaccoud and Lavigeric, are absolutely free from danger.

When the presence of pus has been made, a free incision through the whole thickness of the abdominal wall is made by the side of the needle, and parallel to the ribs. The evacuation of the fluid contents of the abscess is facilitated by the introduction of forceps between the lips of the wound, and by expansion of the blades, and also by the transmission of manual pressure through the abdominal wall to the inferior surface of the liver. The cavity of the abscess is then washed out with a weak solution of carbolic acid, until no traces of pus, of flakes and of portions of slough, can any longer be seen in the returning current of the injected fluid. A piece of drainage-tubing of very wide calibre is then passed to the bottom of the cavity, the outer portion of this being cut off on a level with the wound. Application is then made of the ordinary antiseptic dressing of gauze with protective and jaconette, which dressing is maintained by means of an elastic bandage. This dressing is changed daily, and at the same time the protruded portion of the drainage-tube is cut away. The results of this treatment in the three cases treated by Dr. Stromeyer Little were most satisfactory. The operation in each instance was immediately followed by improvement in the general condition of the patient. There was also immediate disappearance of fever, and complete absence, during the subsequent treatment, of any febrile reaction. In two cases complete cure was attained within one month, and in the third case, in which a second operation was necessitated through relapse, the patient was able to travel on the seventy-sixth day.—W. JOHNSON SMITH in *London Medical Record*

Lippia Mexicana is the new expectorant introduced by the same firm on the authority of Dr. J. H. Sexton, of Baltimore. It is surely a reasonable visitor.

THE LARYNGEAL OBTUNDER OF KRISHABER.

Tubage of the larynx, to which attention has been widely attracted during the past year by McEwen's method as a substitute in some cases for tracheotomy, has been put to what seems a more practical and important use by Krishaber in the method devised by him to prevent escape of blood into the trachea during bloody operations upon the nasal and buccal cavities. Upon the occasion of a recent operation for resection of the right superior maxillary bone, M. Verneuil, of Paris, demonstrated the use of the apparatus of Krishaber, and in a lecture based upon the case strongly eulogized the method, (*Gazette des Hôpitaux*, 11 Decembre, 1880). This apparatus acts by obtunding the larynx, while still the patient is permitted to breathe, and that without tracheotomy or operation of any kind. It is composed of a bent tube, of proper length, having a diameter of 8 millimetres, one of its ends being slightly widened. At 4 centimetres from the end which is to penetrate the larynx the tube is surrounded with a chemise of very thin rubber, perfectly sealed and communicating with a small tube joined to the principal tube and terminating in a small stop-cock externally. In its application, the patient having been anæsthetized, and the tongue drawn out by means of a forceps in the hand of an assistant, the operator touches with the left index finger the tip of the epiglottis; guided by this, he glides the end of the tube upon the finger nail behind the epiglottis and into the larynx. That the instrument is well in place is known when the patient breathes through the tube. The rubber chemise is then dilated by water, injected by means of a syringe through the little tube communicating with it until the cavity of the larynx or trachea is completely filled. All communication around the tube is thus prevented and respiration through the tube necessitated. Complete occlusion of the respiratory passages may thus be accomplished with facility. The experience of Krishaber has been very successful with it, and in the particular case where applied by M. Verneuil it acted perfectly. A moment's consideration will convince any one that the method is an important improvement. Simple, safe, thorough. The disadvantages of the position of Rose, the added dangers and difficulties of preliminary tracheotomy, and the use of the canula of Trendelenberg are avoided; continuous anæsthesia is easily accomplished, and operations in the nasal, buccal, and pharyngeal spaces made as simple as in the extremities.—*Annals of Anatomy and Surgery*.

THE SPECIFIC GERMS OF MALARIAL FEVERS.

Dr. G. M. Sternberg, of the United States Army, who was associated with Dr. Chaillé and others on the Havana Yellow Fever Commission, and who, some time after the return of the commission from Havana, was directed to continue his researches upon suspended particles in the air of places liable to infection, has recently been engaged in that work in New Orleans; and in the somewhat kindred work of investigating organized particles from the swamps and well-known malarial regions in the vicinity of that city, with the view of verifying or else disproving the observations which have been made by Klebs and Tommasi-Crudeli on the existence of spores in such localities, supposed to have a causal relation to malarial fevers. He is performing physiological experiments on living animals, with reference to the determination of this question.—*British Medical Journal*.

We had the pleasure of visiting Dr. Sternberg's laboratory during the session of the American Public Health Association, and examined with great interest the work he is doing in the study of the microscopic forms of animal and vegetable life. His researches in the pathology of yellow fever we hope to see printed at an early day.

It is apparent to every thoughtful person who visits his laboratory, that Dr. Sternberg must be allowed to go on without limitation as to time or money in the work he has so auspiciously begun, it would be wasting time to push hurriedly through with it. Not months but years must be consumed in studying and correcting studies, for the world of lower forms which can only be revealed by the microscope, includes a most difficult botany of the cryptogams, to say nothing of the lower animal bodies, and these have all to be mastered as preliminary study. The medical press of the country must be patient, and give their influence and support to a liberal expenditure of time and money. The work is in competent hands.

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The Medical Society of North Carolina will convene in Asheville on the 24th day of May, 1881. The Board of Examiners will be in session on the 23d and every day thereafter until all candidates are examined.

DIAGNOSIS BETWEEN CYSTITIS OF THE NECK OF THE BLADDER AND PROSTATITIS, AND BETWEEN THE LATTER AND COWPERITIS.

Le Concours Médical (1880, page 532) gives the following from Fournier :-

CYSTITIS.

1. Characteristic vesical tenesmus; frequent and imperious desire to urinate.

2. Micturition especially painful at the moment when the last drops of urine are passed.

3. Excretion of a dysenteric liquid mixed with pus and blood, at the last moment of urination; pure blood sometimes passed.

4. Simple perineal sensibility; irradiating pains towards the anus, less violent than in prostatitis.

5. Prostate normal.

6. No retention of urine.

7. Few or no general symptoms.

PROSTATITIS.

1. Vesical tenesmus less marked; rectal tenesmus more noticeable; frequent urination not present.

3. Nothing of the kind observed.

4. Deep perineal pains (very severe, and increased on movement), defecation, etc.

5. To the rectal touch the prostatic tumor is perceptible; very tender, hard, etc.

6. Dysuria, retention of urine, etc.

7. General symptoms; fever, loss of appetite, etc., pretty well marked.

Cowperitis is sometimes very hard to distinguish from prostatitis, because the two glands are so near together, and this is especially the case when the disease is somewhat advanced, the whole locality being swollen and phlegmonous. However, careful exploration will usually serve to distinguish the two affections. The passage of an acorn bougie will also serve to show the absence of pain in the neighborhood of the prostate. The course of cowperitis is also different. It shows itself as a phlegmonous tumor adherent to the bulb, limited to the point occupied by Cowper's glands, and having, at first, no connection with the canal of the urethra. The pus in cowperitis points very rapidly towards the perineum, and the vesical symptoms are so slight that some writers have denied the possibility of complete retention in cowperitis.—*Philadelphia Medical Times*.

“HOW SHALL THE DOCTOR MAKE MORE MONEY?”

The *Louisville Medical News* has been getting some spicy correspondence on the ways and means of the profession. We reprint the following :

“Next to the natural anxiety attendant on the conscientious discharge of professional duty, the question of ‘money’ is perhaps the most urgent. It has been very fully ventilated in the *News*, but I think the true solution of the difficulty has not yet been arrived at. That there are too many doctors is probable ; but nearly all, however, have made or are making enough to eventually make any of us rich in time ; but we don’t collect promptly enough, and worse, don’t save what we make. How many young doctors are there—or older ones, for that matter—who drink at least *three* drinks of liquor and smoke three cigars a day ! Now three drinks of Illinois sod-corn a day make thirty cents ; three cigars a day are fifteen cents ; all forty-five cents a day. This in three hundred and sixty-five days equals one hundred and sixty-four dollars and twenty-five cents. Here is enough money gone to the dogs—or worse, to the saloon-keepers—to furnish any decent man’s wardrobe. Now save this each year for ten years, and see how much we have worse than thrown away—sufficient to buy a farm. But the saloon man has it, and the doctor has it not, and the doctor whines about it.

‘Set up the standard of total abstinence from liquor and tobacco, and we soon shall have a better kept, better read profession—one that will not need to be eternally in debt, but independent. The sick-room will not then so often be cursed with the unsteady hand, the bleared eye and the rotten breath which are now so often perceived in the doctor, who perhaps when called to his patient was industriously engaged in wearing a hole in the elbow of his coat on some beer-counter. This is the opinion of one who has been both.
 ‘O’Fallon, Illinois. AN UP AND DOWN MAN.’”

Tonga is the latest remedy for neuralgia, which comes to us from the Fiji Islands through the enterprising firm of Parke, Davis & Co. There is ample field to test its merits, and we doubt not many of our readers will be tempted to try it in their practice. We would be obliged for clinical reports upon its action within our bailiwick. It comes well endorsed by Drs. Ringer, Murrell, and Bader, and deserves fair trial.—*Exchange*.

DE LA SOTA ON THE PATHOLOGICAL ACTION OF TOBACCO ON THE THROAT.

M. Rammon de la Sota described three forms of pharyngo-laryngeal angina caused by tobacco. The first, purely erythematous in its nature, is characterized by patches of dark red, irregular in outline, without dilatation of the vessels or peripheral swelling. There is no sensation except that of dryness, principally felt on waking, and disappearing when smoking is left off and cooling gargles are used. In the second form, vesicles occupy the soft palate, some of which dry up in three or four days and are replaced by greyish spots; others break, and occasion erosions very painful when the patient eats or smokes. It is not rare to find analogous vesicles on the lips, inside the cheeks, and on the sides of the tongue. Cure quickly follows the disuse of tobacco, and the use of astringent gargles. The third and most tenacious form is met with in the manufacturers of tobacco and very great smokers. The mucous membrane of the pharynx and larynx is swollen, of a livid-red color, covered in places by a thick and viscid mucus, and studded with little granulations surrounded by varicose vessels. In this variety there exists, conjointly with the symptoms of the first two varieties, a frequent cough, a kind of hem; the voice is relaxed, and of small compass. Discontinuance of smoking, absolute rest from speaking, inhalations of salt-water, and cauterizations of bichromate of potassium are the treatment indicated.—*London Medical Record*.

BRISTOWE ON THE TREATMENT OF ENTERIC FEVER.

In the *British Medical Journal*, November, 1880, p. 847, Dr. Bristowe sums up a very able and instructive paper on the treatment of typhoid in the following words: 'Let me state briefly the treatment to which I should like to be subjected if ever, unfortunately, I should become affected with typhoid fever, I should like to be placed in a cool, well-ventilated room, and covered lightly with bed clothes; to have a skilful and attentive nurse to look after me;

to be fed solely with cold milk, unless vomiting should demand the addition to the milk or medicine calculated to allay vomiting. If diarrhoea became troublesome, or ever there was much pain or tenderness in the cæcal region, and in the bowels, I should like to be treated, not with laxatives, but with opium, given either by the mouth or by the rectum. If constipation were present, I should, excepting in the first week, like to have enemata only employed for its relief. In the event of intestinal hæmorrhage coming on, I should like to have ice to suck, or ice-cold fluids to drink, cold compresses to the belly, and cold injections into the bowels; and though I am sceptical as to their efficacy, I should still choose to have astringents, and more especially lead, given to me at short intervals. If perforation should take place, let me have large and repeated doses of opium. Stimulants I should prefer to be without early in the disease; later, however, and during convalescence, I should like to have them in moderation. As to the cold baths, I would rather not have them; but I would, nevertheless, leave it to my physician to exercise his discretion in the matter. I would leave also for him to decide, according to circumstances, whether alcohol should be administered to me in large quantities. I would prefer not to be treated at a temperance hospital.'—R. NEALE, M. D., in *London Medical Record*.

BULLETINS OF THE PUBLIC HEALTH.

The Bulletins of the Public Health issued by the Supervising Surgeon General of the Marine Hospital Service, from July, 1878, to June 1879, inclusive, have been reprinted in pamphlet form. This republication was very judicious, as any one can see by glancing at the index. That year, also was a yellow fever year, and the history of the plague in Russia likewise coming into the period covered, render the volume a highly valuable one for medical history. The bulletins were published at the time, by the papyrographic process, and distributed in a limited number, but, of course, were not in such a shape as to be accessible to the general reader. Hence, the value of this reprint is that of an original work.

THE NORTH CAROLINA EDUCATIONAL JOURNAL.

This Journal published at Chapel Hill, is a credit to the State. It has only reached its second issue, and it shows the vigor of a coming manhood.

Especially in this number can we commend the article by Mr. Wiley, the former Superintendent of Common Schools, against the clause in the school bill now pending before the Legislature, which vests in the State Board of Education the power of prescribing for a term of years the text books to be used in public schools. This is a dangerous measure, and no temptation should be placed in the way of public officers to have percentages offered to them, and no such gratuitous imputation should be placed upon the ability of the teachers of public schools to make their own selections. What has already been done in this direction of prescribing books should serve as a sufficient warning against carrying the rule farther.

To return to the *Journal*. We wish it every success, and trust the citizens of North Carolina will show an earnest appreciation of the educational movement inaugurated, by subscribing to this excellent publication, and by discussing in its columns, freely, the needs of education. Give at least \$1.00 (the subscription price for one year) towards removing our shameful blight of illiteracy.

THE OXONIAN.

This is another charming journal published at Oxford, N. C., in the interests of better education. Few as good articles are seen in the best papers and magazines in this country as we find in this unpretending monthly. The editors announce \$1.00 as their yearly subscription, and it is richly worth three times the amount.

Let us be ashamed of the loud-mouthed cry of the politician about education which has for so long a time been used as a campaign text, to be forgotten when hearty work it is to be done. Let us give freely to sustain the *Oxonian* and its companion journal at Chapel Hill, and let each one take upon himself his or her share of the responsibility for elevating our educational standards.

ISAAC WAYNE HUGHES, M. D.

We learn from the *Morning Star* just as we are closing this issue of the death of Dr. Isaac W. Hughes, of Newberne.

Dr. Hughes was a native of Pennsylvania and was in his 78th year. For sixty years he has been a resident of Newberne, and was probably the oldest regular physician practising in the State.

BOOKS AND PAMPHLETS RECEIVED.

Anæmia in Infancy and Early Childhood. By A. Jacobi, M. D. Clinical Professor of Diseases of Children in the College of Physicians and Surgeons. New York: Reprint from Archives of Medicine, February, 1881. G. P. Putnam & Sons, 182 Fifth Avenue. Pp. 27.

Bulletins of the Public Health. Issued by the Supervising Surgeon General under the National Quarantine. Act of April 29, 1878. (Reprint). Washington: Government Printing Office. 1881.

Clinical Lectures on the Physiological Pathology and Treatment of Syphilis. By Fessenden N. Otis, M. D. New York: G. P. Putnam & Sons. 1881. Pp. 116.

Health Primers: The Heart and its Function. New York: D. Appleton & Co., 1, 3, and 5 Bond Street. Price 40 cents.

Syphilis and Marriage. Lectures delivered at the St. Louis Hospital, Paris. By Alfred Fournier. Translated by P. Albert Morrow, M. D. New York: D. Appleton & Co. 1881. Price \$2.00.

Annual Report of the Health Officer of the City and County of San Francisco. For the Fiscal Year Ending June 30, 1880. J. L. Meares, M. D., Health Officer. San Francisco. 1880. Pp. 70.

Transactions of the Eleventh Annual Session of the Medical Society of Virginia. Held in Danville, October 15-21, 1880. Pp. 262.

Illustrierte Vierteljahrschrift der Ärztlichen Polytechnik. Herausgegeben von Dr. G. Beck, Verfasser des therapeutischen Almanachs. Heft 1. 111 Jahrgang, 1881. Pp. 48.

NORTH CAROLINA MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., EDITOR.

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See Advertisement of PARKE, DAVIS & CO., on Next Page.

TONGA!

The Fijian Remedy for Neuralgia.

—o—

This remedy has been used for several centuries by the aborigines of the Fiji Islands, though introduced to the notice of the profession in England only about a year ago.

The success attending its use in the hands of Drs. Sidney Ringer and Wm. Murrell, of London, England, induced us to dispatch an agent to the Fiji Islands for the collection of a quantity of this valuable drug. Heretofore the secret of its source has been jealously guarded by the Fiji chiefs, the knowledge of its composition being handed down as an heirloom from one generation to another. Through Mr. Ryder, a resident from Fiji, a specimen of the remedy was first brought to England, with the statement that he received it from a European who had married a chief's daughter and had learned the secret from his father-in-law.

Tonga, as prepared by the Fijians is a compound of several plants, and occurs in the form of small loose bundles, the remedy being enveloped in a wrapper of the inner bark of the coconut tree.

The natives administer it in the form of an infusion, but it has been found that alcohol much more thoroughly extracts its active principles.

Drs. Ringer and Murrell base their report of the use of the drug on a sufficient number of cases and C. Bader, ophthalmic surgeon to Guy's Hospital says; "The results obtained by Drs. Ringer and Murrell fully coincide with mine. I have notes of cures of brain and kidney disease in which Tonga alone succeeded in removing pain. All cases of neuralgia (supra and infra-orbital branches of the fifth nerve) with swelling of the temporal veins during the attack were benefitted."

Reports from Sidney, Australia, show that Tonga has also been successfully employed as a remedy for neuralgia by the profession of that country.

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—o—

This new Mexican remedy is introduced to the medical profession of this country on the authority of Dr. A. H. Saxton, Baltimore, Md., who has communicated the results of his experience in its use in an article in the January, 1881, number of the THERAPEUTIC GAZETTE.

The demulcent and expectorant properties claimed for the drug by Dr. Saxton, are such as must commend it to the careful attention of the profession, and especially so during the season of catarrhal affections of the respiratory passages. A remedy which combines demulcent with expectorant properties, and at the same time does seem to show the drug to be possessed of an alternative influence in the respiratory mucous membrane which must enhance its value in those chronic affections so often rebellious to treatment.

We prepare a tincture of Lippia Mexicana and will be pleased to furnish a reprint of Dr. Saxton's article, on application.

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NORTH CAROLINA MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., Editor.

Number 3. Wilmington, March, 1881. Vol. 7.

ORIGINAL COMMUNICATIONS.

THE SYMPTOMATOLOGY OF TYPHOID FEVER.

A Clinical Lecture Delivered at the Hospital of the University of
Pennsylvania.

By WILLIAM PEPPER, M. D.

Professor of Clinical Medicine in the University of Pennsylvania.

Repor'ed by WM. H. MORRISON, M. D., for the NORTH CARO-
LINA MEDICAL JOURNAL.

This man was admitted yesterday. I have not yet had time to make a careful study of his case, but shall do so now. His history is as follows :

John Igoa, 21 years old, laborer, born in Ireland, lives and works at Ardmore station on the Pennsylvania railroad, single, no venereal taint, takes alcohol in moderate quantities. Three days ago was taken with a severe headache, pains throughout the body, or as he expressed it, in the bones, and slight cough. The headache grew worse and on the second day he had some fever. His bowels were costive and he took some purgative medicine. This was followed

by numerous thin, watery, yellowish stools. The fever and weakness increased markedly and yesterday he was sent her for admission.

He complained then of headache on top of the head and across the frontal region. There was no delirium and when questioned he answered intelligently although somewhat slowly. There was at that time marked flushing of the face and upper part of the neck. The skin was acting freely. The temperature was 101° , the pulse 120 per minute and feeble, but remember he had been brought some distance and was exhausted. The respirations 32 per minute. The tongue was foul and coated and indented by the teeth. The papillæ prominent. The stomach was retentive. No nausea nor vomiting. Entire anorexia, but great thirst. The bowels were only open once yesterday, the stool being thin and yellow. The abdomen was slightly distended. The urine was high colored but otherwise normal. Last night the temperature was up to 103.4° ; but to prove that the frequent pulse was to a great extent due to nervous exhaustion, the pulse was only 96 per minute.

This morning 10:30 A. M., we find the following condition, this being the fourth or fifth day of the disease: a temperature of 102.8° , a pulse of 112 per minute and respirations 32 per minute. One watery, ochre colored stool. He has, of course, had no purgative, but rather the reverse and as we may say there is no tendency to diarrhœa. His mind has become more dull, but he can be easily aroused when spoken too sharply. He is evidently a little hard of hearing as he sometimes misunderstands what is said to him. This condition is what we would call one of hebitude, the exact meaning of which is dullness of mind. It is not marked enough dulness to deserve the name of stupor. Still less would we call the condition coma. These being the terms used to signify different degrees of dulness of mind, the last being a condition in which it is almost impossible to arouse the patient.

The fever is quite high. A morning temperature of 102.8° is pretty sure to be followed by an evening temperature approaching 104° , that is, unless the fever is an intermittent one. The pulse is rapid. It was 112 per minute at 10:30 A. M. I shall take it now, 1:40 P. M. It is 108 per minute. It has a fair volume, but is very compressible; the slightest pressure of the finger causes it to vanish. It is rapid, somewhat large and irritable; if you touch it

very lightly, it comes with a sharp quick stroke, but if you press your finger upon it, it melts away. These characteristics of the pulse are such as we certainly find in continued fevers as distinguished from the pulse in acute inflammations, where a pulse that is rapid and large, has also an exciting character and is resistant to pressure, so that we speak of it as firm and hard. His respirations as he lies tranquilly before us are quite 28 per minute.

Now, the pulse-respiration ratio is here pretty well preserved. The normal pulse being 72, and the normal respiration 18, we have a pulse-respiration ratio of 4 to 1. In this case we have a pulse-rate of 108 and respiration 28, so that it is almost exactly 4 to 1. The respiration and pulse are accelerated uniformly. This again is very characteristic of essential fevers as compared with local inflammations, particularly any inflammation involving the thoracic viscera, the pleura, lungs or heart. If we had any disturbances affecting the lung, we should have the respirations accelerated far more than the pulse. If we had an affection of the pericardium or endocardium, we should have the pulse increase more than the respirations. Observation of the pulse-respiration ratio also furnishes strong evidence that there is no complication affecting the heart or lungs, and is an evidence that the fever from which the patient is suffering is some form of continued fever. It, of course, does not tell us what fever it is.

The skin is acting freely, the forehead is bedewed with large drops of sweats. Moisture of the skin is not at all incompatible with high fever. The temperature of the internal parts of the body may reach almost any point while the skin is moist and cool for if the air is dry, and still more if it is in circulation, the sweat will be evaporated and rapidly cool the skin. This man's head feels cool to my hand. If you are governed by the sense of touch in fever, you will constantly be led into the most extraordinary mistakes. Even if you are careful to put the hand upon the inner and covered parts, you are still liable to be led into error, so that there is no reliable method other than the use of the clinical thermometer. I remember one instance which impressed itself so forcibly on my mind that I shall never forget it. It was a case which I saw in consultation with another physician. We made an examination and came to the conclusion that there was no fever; the face and hands

were cool. Leaving the room to talk it over a question arose and being evident that the presence or absence of fever was going to settle it, we went back and using the thermometer, found a temperature of 107° , in the axilla, mouth and rectum. A feeble circulation and a rapid loss of heat from fusion sweating in a hot, dry air had cooled the exposed parts of the body so much as to entirely deceive us. Therefore, in any case where there is the slightest suspicion of fever, use the thermometer; nothing else is worthy of reliance.

Going a little further, we notice that the skin is flushed over the face and brow and when I press upon it the flush disappears but returns immediately. Over the summits of the cheeks it is a vivid flush. This is worthy of careful attention. I dwell upon these little points to-day because we shall have time enough during the progress of the case to study it thoroughly. Flushing of the cheek is then worthy of careful study. In the first place is it a unilateral or symmetrical flush? Here it is symmetrical, affecting both cheeks and the brow. Now, in cases where there is some unilateral severe inflammation, particularly in pneumonia and sometimes in severe pleurisy, the face is often flushed only on one side while the other is very slightly or not at all affected; but in continued fevers unless there is some local lesion of one or other side of the chest the flush is symmetrical.

As to its distribution, it may be general or localized. As to color, it may be bright or dusky. There are some diseases in which there is a dusky, suffused condition of the skin, as in typhus where the whole face is livid and suffused. In typhoid fever we are apt to have a bright circumscribed flush particularly around the summits of the cheek and under part of the orbit where the vascularity of the skin is very great. Here the skin of the extremities is of normal color.

In connection with the skin and facies of the patient, you should always examine the eyes. There is here a very slight injection of the eye. It might be called a slight suffusion; but is nothing like fine injection which we notice in typhus fever, cerebro-spinal meningitis or measles. The pupils are freely moveable and of normal size.

The next question in studying the skin is in regard to an erup-

tion. This may appear upon the face and we see here a few spots but they have no characteristic appearance. There are also a few spots of acne. Among eruptions, those of measles and small-pox first appear and then extend to other portions of the body; the eruption of typhus comes out indifferently in one place about as soon as another; but typhoid fever is the only disease in which the eruption first appears upon the trunk.

Again as to the date of the eruption. This man is now at the close of the fourth day of his disease. Rubeola would have declared itself by an eruption. Variola would have declared itself and typhus would probably have done so; so that by considering the date, we can often get a good deal of help in making our diagnosis. In typhoid fever the eruption does not come out until the seventh or eighth day, so that it is too soon yet to look for an eruption if this is typhoid. There are some little stains on the skin but they are of yellowish rather than a redish color. There is also a little mottling under the skin, a subcutaneous mottling. This is frequently found in continued fevers. It has no characteristic meaning or special value.

Let us now get an idea of the condition of this man's digestive apparatus. He puts out his tongue. There is a very sharp division between the dorsum and the edges. The dorsum is the central portion of the upper part or back of the tongue. I do not believe in the minute distinctions between the tongues of different diseases and I confess that I cannot diagnose diseases by the character of the tongue; but this is the tongue of a febrile disease of a typhoid type, or of an inflammatory disease approaching a typhoid type. Let us carefully observe it. It is a little swollen as shown by the indentation along the edges caused by pressure against the teeth. Secondly, it has a thick coating. This is whitish. In gastro-intestinal catarrh, the coating of the tongue may be of this heavy, yellow, bilious character. You will often notice, as here, that the tongue is dry at the tip and dorsum. This is due in the first place to the deficiency in the secretions of the month, and, secondly, because the man in this dull condition lies with his mouth open, breathing through it and thus rapid evaporation takes place. As the tongue dries, it assumes a brownish color and the tip is redish and very dry. The papillæ of the mucous membrane are here enlarged and appear as redish points through the white coating.

Tell him to move the tongue around in his mouth and now when he puts it out you see it is quite moist, showing that the dryness is to a great extent due to his breathing through his mouth.

You can notice the formation of sordes on the teeth, little whitish yellow scales of dried mucus, and epithelium. Sordes means dried secretion. They form in fevers for the same reason that the tongue becomes dried and coated. The secretions are diseased, thick and pasty. Breathing through the mouth dries them, sometimes so dry that the skin cracks and blood is mixed with them forming brown, dark and sometimes very thick incrustations on the inside of the gums and lips.

This patient has marked anorexia but retention of thirst. This retention of thirst is a favorable symptom. In bad cases where the nervous system is much depressed, the patient is not only indifferent to eating but also to drinking. We should, therefore, in the treatment of these cases, be very careful, from the first to inquire as to the amount of fluid taken. Combustion is going on at a rapid rate. The sweating is profuse, and in addition, there is diarrhœa, yet the patient may not ask for water once in the twenty-four-hours, so that carelessness on the part of the physician or nurse may do the patient much injury from the want of this fluid. We ought, therefore, supply our fever patients with large amounts of water.

You have heard that the bowels were loose and the stools characteristic of the early stage of typhoid fever, thin, yellow, or ochre colored. The diarrhœa cannot be said to be marked, for the man took a purgative before he came in. As a rule this is the case. As soon as man feels out of sorts, he takes a purgative, but it is comparatively rare that a man needs a purge in the early stage of an acute disease, for nature has cut down the appetite so that the bowels contain little matter to be purged away. Of course, these are exceptions to this statement, but as a general rule as soon as a man feels bad, and I am sorry to say this practice is encouraged by many physicians, he takes a purgative which leaves him enfeebled and his bowels irritated, to go into some severe disease. Since our patient has been lying in bed he has had but one stool a day.

The abdomen is slightly meteoric. I like you to get an accurate idea of the meaning of these words, because their proper use will

impart correctness and elegance to your speaking and writing. Certain words are used to express different degrees of distension of the belly. We speak of the empty belly as scaphoid or hollowed out; of the healthy belly as being flat. Then we have the belly distended, we call that meteorism. Then we have the belly prominently distended and we speak of that as tympanites, and if it is enormously distended we say that it is tense or greatly distended. This belly is soft, but not as soft as natural.

In all cases where there was a suspicion of typhoid fever, it has been customary to see if we could not hurt the patient by pressing in the right iliac fossæ, and if we do so with sufficient force, we can make him complain even if there is no trouble there. You must remember that even if you do hurt him and produce gurgling you cannot learn much by it and common sense would teach you that you had better leave it alone. If it was as sure a diagnostic mark as crepitus in a broken bone, it would be proper to use this plan. I do not think it is right to give a patient pain or run the risk of doing him injury without we expect some important good from the manipulation. I have seen surgeons take hold of a bone which was as evidently broken as that, that is, a fist, and twist it around producing crepitus to their immense satisfaction and the patient's intense anguish. I, therefore, say keep your hands off the iliac fossæ. Gurgling is of no importance, for it is present wherever you have gas and liquid together; and if there is tendency, that is proof that you should not have touched it. There should be no difficulty in the diagnosis, if you pay attention to the other symptoms and watch the development of the case.

Now, we have here a group of symptoms which are sufficiently characteristic of an ordinary case of typhoid fever of a mild type. The patient comes here in the early stage of the disease, not much exhausted except by the purgative. Following his condition, nervous symptoms not very severe, hebetude, dulness of hearing, drowsy state of the mind, circumscribed flush of the face, particularly over the cheeks; marked fever, reaching on the fifth day 103°, with a morning depression and an evening rise, marked irritation of the gastro-intestinal mucous membrane, a dry coated tongue, dry, you will remember from breathing, through the mouth, loose stools of a yellow color, slight distension of the abdomen, a subcutaneous

mottling, but no distinct eruption, and bronchial cough. I have not time to examine the lungs before you but there are only a few scattered râles throughout the chest.

What has been the treatment? He has been kept absolutely in bed and on no pretence shall he be allowed to rise. He has had diluted milk, two parts milk and one part water. Six ounces of this have been taken every three hours, making three pints in the twenty-four hours. In addition to this he has received water so that he takes not less than eighty ounces of fluid a day, containing one quart of good milk and probably a little meat juice. He has taken no drugs except a little pill of nitrate of silver and opium, simply to relieve the gastro-intestinal irritation. If the temperature is very high, he will be sponged with water containing a little vinegar to favor evaporation. He will have plenty of fresh air but be protected from any draughts.

VESICAL CALCULUS PRECEDED BY TRAUMATIC STRICTURE, TWICE RELIEVED IN THE SAME INDIVIDUAL, SIX YEARS INTERVENING, BY ULCERATION THROUGH THE PERINÆUM.

Extract from the Case-Book of WILLIAM J. LOVE, M. D., Wilmington, N. C.

In May, 1880, saw — —, male, aged 47 years, spare built, weight about 135 lbs., cachetic. Found abscess forming in perinæum and scrotum; micturition difficult; urinary fistula, an inch in front of the junction of scrotum with perinæum, and half inch to right of raphe; closed within a day or two for the first time in six years. Answered that he had stricture. Ordered saline cathartic, quinine and iron, opiate when necessary, flaxseed poultices, and liberal diet.

Information volunteered at subsequent visit that he was cut for stone in 1874 by Dr. J. Francis King of this city. Error, as will be observed further on.

Twenty-two days from my first visit abscess discharged, after formation of a large slough, patient not having consented to an

opening with the knife. A day or two afterward, a phosphatic calculus, ovoid, weighing 501 grains, escaped. This led to a more minute investigation of the history of the case when it was ascertained that 'in 1847 he received a contusion of the perinæum which resulted in retention of urine 105 hours. Relieved by Dr. Paul F. Eve, of Augusta, Ga., with catheter and pump.

In 1852, Dr. Clements, of Americus, Ga., diagnosed stone, and on the same day a calculus escaped by the urethra, with total relief of symptoms.

In 1869 he began to have hæmaturia, etc., and from this time was treated by Dr. King.

May 31st, 1874, after suffering 19 weeks with abscess of perinæum and scrotum, a large calculus unexpectedly escaped through it. The doctor then extracted several others through the opening thus made, with forceps. He had up to that time been treated for stricture—from which he still suffers.

Now, March 1st, 1881, fistula permits a slight stillicidium, most of the urine being voluntarily voided in a small stream. The obstinate cowardice of patient forbids any exploration of urethra and bladder, not to mention any operation for relief. Urine is loaded with phosphates for which the usual treatment is adopted. Patient denies having had any symptom of stone since last May.

At a meeting of the New York Academy of Medicine, held January 20, 1881, the following resolution was adopted :

Resolved, That a Committee be appointed by the President to investigate the extent to which leprosy prevails in the United States.

The President appointed as such Committee, Drs. H. G. Piffard, F. R. Sturgis, and G. H. Fox.

The Committee are desirous of ascertaining the actual number of lepers in this country at the present time, and to that end respectfully request any physician who may know of the existence of a case in his neighborhood to communicate the fact to the Chairman of the Committee, at No. 10 West 35th St., New York.

SELECTED PAPERS.

A LECTURE ON BACKACHE AND THE DIAGNOSIS OF ITS VARIOUS CAUSES, WITH HINTS ON TREATMENT.

By GEORGE JOHNSON, M. D., F. R. S.

Professor of Clinical Medicine ; Senior Physician to King's College Hospital.

GENTLEMEN :—The careful study of a particular prominent symptom, with a view to ascertain the various causes from which it may arise, is often of great practical utility. I propose now to make this inquiry with regard to the very common symptom *backache*. A patient comes to us complaining of pain in the back ; and, as an essential preliminary to the suggestion of a remedy, we endeavor to ascertain the precise seat, the nature, and the cause of the pain.

I will first refer to the most common cause of backache, and afterwards to those which are of less frequent occurrence.

In the great majority of cases, the pain of backache has its seat in the muscles, and is a simple result of strain or over-fatigue of the lumbar and erectores spinæ muscles and tendons. Every one must have had personal experience of the pain and soreness resulting from muscular fatigue consequent on any unaccustomed or unusually prolonged or violent exertion of strain. One remarkable feature of the pain which results from excessive muscular exercise is that, while it may continue more or less during rest in bed, it is usually much increased by the first movements after rest, but gradually diminishes after moderate exercise.

While investigating the various causes of muscular lumbago, it is well to bear in mind that standing still is more fatiguing for the legs and the back than walking, and that leaning forward puts a greater strain on the muscles of the back than standing erect. The backache resulting from fatigue of the dorsal muscles is often bilateral, and equally severe on the two sides ; but not unfrequently it is confined to one side, or is much more severe on one side. This is accounted for by the common practice of throwing the weight of the trunk, while standing, more upon one leg ;

the spine being more or less laterally curved, and the muscles on one side, therefore, having a greater strain upon them than those of the other.

A common cause of painful overstrain of the dorsal muscles is an excessive weight in the abdomen, such as results from the advanced stage of pregnancy; an accumulation of dropsical liquid, whether ascitic or ovarian; or an excessive development of fat. It is obvious that the continued effort required to maintain the erect posture with an exceedingly ponderous abdomen must often cause a painful strain of the dorsal muscles.

I do not propose now to discuss the treatment of abdominal dropsy. Pregnancy in due course brings its own natural cure; and an excessive weight of fat may be lessened and regulated by a system of diet which reduces to a minimum the amount of oily, saccharine, and farinaceous articles of food. It happens to me very frequently to be consulted by fat men and women suffering from pain in the back, who come to me under the impression that their pain has its seat in the kidneys. For the permanent relief of these cases, I rely mainly upon the following dietary; and I have received many grateful acknowledgements of the relief thereby afforded.

Diet for Excess of Fat.—*May eat* :* Lean mutton and beef; veal; lamb; tongue; sweetbread; soups, not thickened; beef-tea and broths; poultry; game; fish of all kinds; cheese; eggs; bread *in moderation*; greens; spinach; water-cress; mustard and cress; lettuce; asparagus; celery; radishes; French beans; green peas; Brussels sprouts; cabbage; cauliflower; onions; broccoli; seakale; jellies, flavored, but not sweetened; fresh fruit in moderation, without sugar or cream; pickles. *May not eat* : Fat bacon and ham; fat of meat; butter; cream; sugar; potatoes; carrots; parsnips; beetroot; rice; arrowroot; sage; tapioca; macaroni; vermicelli; semolina; custard; pastry and puddings of all kinds; sweet cakes. *May drink* :* Tea, coffee, cocoa from nibs, with milk, but without cream and sugar; dry wines of any kind in moderation; brandy, whiskey, or gin, in moderation, without sugar; light bitter beer; Apollinaris water; soda water; seltzer water. *May not drink* : Milk, except sparingly; cream; porter and stout;

*If any of the above permitted articles of food or drink should be found to disagree, they are of course to be avoided.

sweet ale ; sweet wines. As a rule, alcoholic liquors in any form should be taken only very sparingly, and never without food.

There yet remain for special mention some varieties of headache having their seat in the muscles. Amongst the patients who consult me under the erroneous impression that they are suffering from disease of the kidney, are a considerable number who, in addition to pain in the back, are alarmed by the turbidity of the urine. The urine is excessively acid, often of high specific gravity, and, on cooling, deposits an abundant sediment of urates. Neither albumen nor sugar is present ; but an excess of nitric acid often causes a copious crystallization of nitrate of urea. Most of this class of patients are dyspeptics, and not a few eat and drink to excess. Now there is good reason to believe that the backache and the muscular pains in the limbs of which these patients complain are the result of malnutrition and irritation of the muscles, consequent on some defect in the processes of digestion and assimilation. Muscular rheumatism may be a result of *muscular dyspepsia*. It is highly probable that, for instance, a mutton-chop—the muscle of a sheep—which should be so thoroughly digested and assimilated as to nourish and strengthen our human muscles, may, through some defect of the primary digestive or secondary assimilative processes, reach the muscles in a state unfit to nourish them, and rather calculated to fret and annoy them. Thus, in this form of dyspeptic myalgia, while the muscles are starved and tortured, their unassimilated nutriment is ejected by the kidneys in the form of urea and urates.

The successful treatment of this class of cases obviously depends upon our ability first to discover and then to remove the causes of the imperfect digestion, which is the primary source of the muscular pains. With this object in view, each case requires a separate and careful study, in order to discover which amongst the numerous causes of imperfect digestion is operative in any given instance. Amongst the most common removable causes of indigestion is imperfect mastication of the food, either from the loss of the molar teeth or the common habit of rapid eating without thorough mastication ; the result being, first, that the food is not sufficiently mixed with the saliva which is poured into the mouth during the process of mastication ; and, secondly, that the food is swallowed

in large masses which are difficult of digestion. In a large proportion of cases, the diet requires to be carefully regulated as regards both quantity and quality, especial care being taken to avoid excess of any kind, whether in food or drink ; and most dyspeptics should be warned to avoid soups, sauces, nuts, pickles, spices, salted, smoked, dried, potted, or otherwise preserved meats, on the principle that most *antiseptics* are *anti-peptics*, the process of digestion being, in fact, a form of regulated physiological fermentation. The following articles of food and drink are also more or less indigestible, and therefore to be avoided by dyspeptics : veal, pork, dried fish, lobster, salmon, pies, pastry, new bread, cheese, jams, raw vegetables, dried fruits, malt liquors, effervescing wines, liqueurs, cider, and all stimulants without food.

There is a form of muscular pains from which young people often suffer, and which are commonly called "growing pains". These pains are, in fact, the result of over-fatigue of young and growing muscles. I have a vivid recollection of having suffered severely from these pains when I was a rapidly growing youth. The chief remedy or preventive is to be found in rest and the avoidance of over-exertion and fatigue, while the nutrition or the muscles is promoted by fresh air and wholesome food in sufficient quantity.

There is a severe form of lumbago which often comes on suddenly during the act of stooping to pick up something from the floor, or perhaps to pull on a boot. The patient, in the act of stooping or rising, is suddenly seized with a pain in the back, which is aggravated by every attempt to assume the erect posture. This sudden pain is probably caused by cramp or the rupture of some fibres of a muscle during the act of contraction. It is a well-known fact, that a muscle may be torn across by its own active contraction. The late Dr. Sibson, who was a remarkably fine muscular man, and much given to athletic exercises, was one day amusing himself by swinging a heavy wooden club, when, on stepping backwards, he had a sudden sensation of having been sharply struck by a stick on the calf of the leg. The muscles of the calf were found to have been extensively and deeply torn across ; and the result was, that for several weeks he had to walk with crutches, while the suicidal muscles were undergoing repair. It is manifest that, short of such extensive injury as this, severe and prolonged myalgia may result

from strain and mechanical tearing of over-exercised muscles and tendons. There are few persons who have not had personal experience of the muscular soreness which remains often for days after a severe attack of *cramp*. The common exciting causes of *cramp* are fatigue and cold and disorders of digestion. An indigestible article of food, which in one individual will cause pain and *cramp* in the stomach, may in another excite *cramp* in one or more muscles, thus affording another illustration of "muscular dyspepsia".

When the nutrition of the muscles has been impaired by long inaction, the result of confinement to bed by illness or a mechanical injury, such as a broken leg, pains in the back and limbs often follow the first attempts at exercise during convalescence; and these pains usually continue with more or less severity until by degrees the muscles regain their normal state of nutrition and vigor. It is often necessary to warn those who are attempting to strengthen their muscles by exercise, that over-exertion and fatigue tend rather to weaken than to invigorate the muscles.

Amongst the exciting causes of muscular pains, whether in the back or elsewhere, exposure to cold and damp is no doubt common and influential. A so-called stiff neck is often excited by a draught of cold air, and a severe attack of lumbago has often been excited by sitting or standing in damp clothes. For the relief of this form of myalgia or muscular rheumatism, the diaphoretic influence of a hot-air or Turkish bath, or of a warm-water bath followed by a vigorous rubbing or shampooing, is often very efficacious. Another useful local remedy is an embrocation composed of equal parts of linimentum belladonna, and linimentum opii, either rubbed into the skin over the seat of pain or sprinkled on the rough surface of piline, which is then bandaged over the painful part.

Aneurism of the Aorta.—Amongst the less frequent, but more formidable causes of severe and persistent headache, is pressure on the bodies of the vertebræ by an aneurism of the abdominal or of the thoracic aorta. In all cases of severe pain in the back the possibility of aneurism should be constantly borne in mind, and the signs carefully investigated. In case of suspected abdominal aneurism, place the patient on his back, with the thighs flexed towards the abdomen, and the abdominal muscles relaxed; then press the ends of the fingers backwards towards the aorta, taking

care not to mistake the merely nervous pulsation which occurs in excited states of the circulation, especially in anæmic women, for the expansive pulsation of an aneurism. A soft blowing sound may always be excited by the pressure of the stethoscope even lightly over the pulsating tumor; and this sound, being conducted through the bones, is often distinctly audible at the back over the spinous processes of the corresponding vertebræ.

It not unfrequently happens that an abdominal aneurism bursts, and forms a false aneurism behind the peritoneum; and such a tumor, taking a lateral course towards the loin, may seem to be so remote from the aorta as to be mistaken for a tumor of a different kind.

In September, 1877, I had under my care in the hospital George V., aged 39, who for several months had suffered from very severe pain in the back and in the left loin and thigh. We found, beneath the false ribs on the left side, a soft pulsating tumor, over which a bellows sound was heard. I took it to be a medullary tumor, so vascular as to give rise to the pulsation, and a blowing sound; the pain being caused by the pressure of the tumor on the lumbar plexus of nerves. In spite of the hypodermic employment of morphia, the poor man died on November 4th, worn out by the pain, and we found that the tumor was a false aneurism. There was a small opening at the back of the aorta, just below the diaphragm; and the blood, having forced its way behind the peritoneum, had quite surrounded the left kidney. There had been no escape of blood into the cavity of the peritoneum. A false aneurism in this situation sometimes attains an enormous size.

On September 17th, 1872, I saw at my own house a gentleman, Mr. J. T., aged 25, who for fifteen months had suffered from very severe pain in the back, and latterly in the left testicle. I found a pulsating tumor in the epigastrium, over which a bellows-sound was heard. The impulse of the aorta was distinctly heard over the lower dorsal spinous processes. Two days afterwards I saw him at his own house, and was told that the night before, while lying on the sofa, he had a sudden increase of pain in the left side of the abdomen, and appeared to be dying. He now complained of tenderness in the left loin, where I found a pulsating fulness over which a bellows-sound was audible. I concluded that the aneurismal sac

had given way, and a false aneurism had formed in the connective-tissue behind the peritoneum. On September 26th, I again saw him, and found that the pulsating tumor extended from the margin of the ribs to the crest of the ilium, and as far as the median line of the abdomen. He died a few days afterwards, having been seen in the interval by Sir James Paget and Sir William Gull, who confirmed my diagnosis. No *post mortem* examination was made.

I have met with two cases in which the diagnosis of abdominal aneurism was rendered somewhat doubtful by the liver being placed in front of the aneurism. The first case occurred in the hospital, under the care of Dr. George Budd, when I was house-surgeon, in 1843. A man, D. M., aged 38, had suffered from pain in the back for three years, and for a year there had been pain in the right shoulder. A tumor having the form and position of the liver, extended as low as the umbilicus. The hepatic dulness extended as high as the right mamma, and the lower ribs bulged outwards. Over the whole abdominal portion of the tumor a strong heaving impulse was felt, and a loud, rather rough murmur was heard. The murmur was also heard at the back over the lower dorsal spinous processes. After remaining some days in the hospital he died quite suddenly. I saw him, with my friend, Dr. Russell, of Birmingham, who was then house-physician, immediately after his death, when we found that the hepatic swelling had disappeared, and had been replaced by a feeling of fluctuation over the whole abdomen. The abdominal cavity was filled with blood, which had escaped from a ruptured aneurism of the aorta, large enough to hold at least a gallon. The liver had become flattened and expanded over the surface of the aneurism, so that along the longitudinal fissure the hepatic substance was not more than half an inch thick.

The other case was one, the history of which I published in the *Pathological Transactions*, vol. x, p. 99. A carpenter, aged 37, had suffered from pain in the back for a year before his admission into the hospital, December 31st, 1858. About seven weeks before admission he first detected a swelling at the pit of the stomach. There was a pulsating tumor at the epigastrium, rather to the left of the median line; above, it seemed to press beneath the ribs, but below

it had a well-defined margin about an inch above the umbilicus. Its anterior surface was rounded and convex, and it distinctly descended during a deep inspiration. No murmur was at first heard over the tumor or over the spinous processes at the back, but on January 13th it was first noticed that a bellows-sound was audible, not over the most prominent part of the tumor, but at its upper margin, just below the ensiform cartilage. The sound continued to be heard from that date. The tumor appeared to increase in size, until it could be just covered by the half-closed hand. On February 6th, while he was sitting up in bed, he suddenly vomited a large quantity of fluid blood, his face became blanched and he quickly died. After death, the tumor in the abdomen could not be felt. On opening the abdomen it was found that the tumor which had been felt during life was formed by the lower margin of the right lobe of the liver. This portion of the liver was indurated by a deposit which was probably a syphilitic gumma, though he denied having had syphilis. The morbid mass was separated from the bulk of the liver by a deep fissure, evidently the results of atrophy of a portion of hepatic tissue. The liver weighed 3 lbs. 14 ozs. The semi-detached portion of liver before mentioned lay in front of an aneurism, which sprang from about the middle of the abdominal aorta. It was about the size of the double fist; its pressure had caused erosion of the bodies of the second and third lumbar vertebræ, and its cavity communicated by a round opening, about two or three lines in diameter, with the lower portion of the duodenum. The stomach and small intestines contained much clotted blood.

The phenomena in this case were very perplexing. The persistent backache, the pulsation, and the bellows-sound led me to the diagnosis of an aneurism, but until the abdomen was opened I could not explain the movable tumor which descended at each deep inspiration.

Aneurism of the *thoracic aorta below the arch* is, according to my experience, of less frequent occurrence than aneurism of the abdominal aorta. It is usually associated with severe pain in the back, resulting from the pressure of the aneurism on the vertebræ and the ribs. In one case which I saw, with the late Mr. Lavies, at the Westminster Prison, the physical signs were dulness or percussion

in the left interscapular region, with an audible impulse or bellows-sound. In another case, seen many years since, with a deceased relative, in the Canbrook Union House, the aneurism had caused absorption of the ribs, and formed a prominent pulsating tumor below the angle of the left scapula.

Cancerous Glands in the Abdomen are amongst the comparatively rare causes of pain in the back. Within the last three years I have seen in consultation four cases of malignant disease, in which, there having been a pulsating tumor in the abdomen, the diagnosis between cancerous glands and abdominal aneurism was in the earlier stages by no means easy.

CASE I.—Mrs. H., aged 65, was seen with Dr. Butler, of Winchester, in July, 1878. There had been constant pain in the back and in the left loin and thigh since April. The pain *was after exercise*. A pulsating tumor was felt at the epigastrium without audible murmur, but the pulsation was heard over the lumbar spinous processes. There was loss of flesh, which went on increasing. In September, a hard swelling was felt at the umbilicus, and another in the right groin, which, as Dr. Butler in writing to me said, confirmed the diagnosis of malignant disease. She died at the end of December. In the meantime, the liver had become much enlarged; there was some jaundice, ascites and swelling of the legs. There was no *post mortem examination*, but the disease was evidently malignant.

CASE II.—Mr. G. B., aged 38, seen, with Dr. Hearnden, of Sutton and Mr. Drake, of Brixton, first in September, 1878. In this case there was constant pain in the back, *worse at night*. A pulsation was felt, and a bellows-sound heard at the epigastrium, and my first diagnosis was aneurism; but in the course of a few weeks, he rapidly lost flesh; and when I last saw him, in March, 1879, he was much emaciated. He had been jaundiced for some weeks; there was ascites and some swelling of the legs. He died in April. There was no inspection, but it was undoubtedly a case of malignant disease.

CASE III.—Mrs. H., aged 67, seen with Mr. Holberton, of Hampton, in September, 1878. There had been pain in the epigastrium and back for three months, uninfluenced by food; also loss of flesh and strength. There was a diffuse pulsation in the epigastrium without audible murmur. She continued to lose flesh and strength, the pain in the back continued, and towards the end there was vomiting. There was no inspection, but Mr. Holberton wrote to me that latterly he believed that both the stomach and the liver became involved in the malignant disease. She died in March, 1879.

CASE IV.—J. T. A., aged 31, seen with Mr. James Connor, of Bat-

tersea, on April 4th and 30th, 1879, had pain in the back—*worse at night*—since January. He was pale, and had lost flesh considerably. A pulsating tumor was felt in the epigastrium, and a blowing murmur was heard. He continued to lose flesh and strength, and died on October 5th. A large mass of cancerous glands was found “behind and below the stomach, and in front of the aorta,” as I learn from my friend, Mr. Connor, who made the *post mortem* examination.

In all these cases, it will be seen that pain in the back was a constant symptom. In all there was a pulsating tumor at the epigastrium; in two there was an audible murmur, while in the others no murmur was heard, though in one of these the sound of pulsation was conducted through the vertebræ to the back. It is remarkable that in two cases the pain was more severe at night, and in only one was it spoken of as made worse by exercise. The pain of abdominal aneurism is usually relieved by rest in the recumbent posture, and aggravated by exercise. In all the cases there was a more or less rapid loss of flesh and strength, and death within a period of about nine months from the commencement of the symptoms.

The persistent backache and epigastric pulsation are common to cases of abdominal cancer and aneurism. In the former a blowing murmur is less common than in the latter. One main difference between the two diseases consists in the evidence of serious constitutional disorder, with progressive emaciation, and death within a year from the onset of malignant disease.

Disease of the Kidneys, although a less frequent cause of pain in the back than is generally supposed, is a not uncommon cause of more or less severe pain in one or both loins. The forms of kidney disease which are the most frequent causes of lumbar pain are calculus in the kidney, but especially in the ureter, malignant or scrofulous disease with enlargement of the gland, acute congestive forms of Bright’s disease, temporary blocking of the ureter by a blood-clot in cases of renal hæmorrhage, distension and dilatation of the pelvis of the kidney resulting from retention of urine, whether caused by stricture of the urethra, enlargement of the prostate, or paralysis or other morbid conditions of the bladder. In some gouty and dyspeptic subjects, nephralgia appears to result from the highly acid and irritating quality of the urine. I do not propose now to discuss the diagnosis of the various forms of kidney-disease to which I have here referred. To do so would require more than one lecture, and I have discussed this subject fully elsewhere.

Gastric Ulcer.—It may be well to mention in passing that the pain of simple ulcer of the stomach is usually felt not only at the seat of the ulcer, which is generally at the lesser curvature or in the posterior wall of the stomach, but it is also referred to the corresponding spot at the back. This is an example of a referred or reflected pain.

Uterine Disease and Displacement.—Amongst the common causes of backache in females, are certain morbid conditions and displacements of the uterus, the diagnosis of which is important, inasmuch as many of them admit of much relief by suitable treatment. As this is a special subject of which I have little practical knowledge, I dismiss it with this brief reference.

Disease of the Bones of the Spine, and of the Spinal Cord.—Amongst the most serious forms of pain in the back are those which result from disease of the bony column, or of the spinal cord, or its membranes. The most common form of disease of the vertebræ is the strumous, with angular curvature, and often with lumbar or psoas abscess. The bones of the spine, too, are sometimes the seat of malignant disease. The spinal cord and its membranes may become secondarily implicated in cases of primary disease or injury of their bony sheath, but more frequently disease of the cord and its coverings is unconnected with disease of the vertebræ. In cases of *spinal meningitis*, there is, as a rule, more pain in the back than when the substance of the cord is alone affected. The pain is usually increased by movement, by percussion on the spine over the seat of disease, and by hot applications to the surface. The pain is often referred to the extremities, of the nerves which pass out from the parts affected, and is commonly associated with numbness, a sense of tingling, and other perverted sensations.

A sense of constriction across the chest is a frequent symptom. There is often spasmodic twitching of the muscles; and in proportion to the affection of the substance of the cord is the frequency of paralysis (*paraplegia*) affecting the parts below the seat of disease, and implicating not only the voluntary muscles, but also those of the bladder and rectum, with resulting retention or incontinence of urine and fæces.

Disease of the spinal cord itself is usually attended with less pain than when the membranes are the seat of disease. Inflammation of

the substance of the cord (myelitis) may quickly result in paraplegia, with little or no local pain in the back. In some cases of spinal hæmorrhage, too, paralysis below the seat of pressure has been associated with little or no pain ; while, in others, more or less severe dorsal pain has marked the onset of the hæmorrhage.

Pressure on the spinal cord by a *tumor*, fibrous, strumous, or cancerous, has often been associated with severe pain in the back. In a case recorded by Mr. Shaw (*Pathological Transactions*, vol. ii, p. 24), paraplegia was caused by two scrofulous tumors occupying the interior and lower part of the spinal cord, and invested on all sides by a thin layer of medullary matter. In that case, the pain in the lumbar region was so severe that the symptoms were supposed to result from caries of the vertebræ ; and the more so, as there was a slight projection of one of the lumbar spinous processes.

The pain resulting from a tumor pressing on the spinal cord is very variable. In one case quoted by Dr. Abercrombie, the first symptom was neuralgic pain in the arm, which diminished as paralysis came on ; in another case the patient had sciatic pain extending to the toes. Mostly the pain is referred to the back, and indicates the seat of the disease ; thence it radiates in the direction of the nerves whose roots are invaded. When there is no actual pain, there may be modifications of sensation, such as a sense of coldness or heat, or sudden alternations of these ; numbness and pricking, or formication. Next in frequency to pain are muscular contractions in the affected limbs, followed in some cases by rigid flexion of a limb, and attended by a great susceptibility to the excito-motor stimulus, and, in a yet further stage, by complete paralysis. In short, the effect of moderate pressure on the cord is to cause spasm and neuralgia, passing on, with increase of the lesion, to paralysis and complete anæsthesia.

I scarcely need warn you to be vigilant and careful not to mistake any of these formidable diseases of the spinal cord and its membranes for the muscular and rheumatic affections to which I referred in the earlier part of this lecture.

There is an acute and transient form of backache which probably has its seat in the spinal cord. I allude to the pain in the back which occurs at the commencement of many acute diseases, especially the febrile exanthemata, and which is usually much

complained of during the initiatory fever of small-pox. In some cases which have proved to be nothing more serious than febrile catarrh, the initiatory backache has been so severe as to excite a suspicion of incipient small-pox.—*British Medical Journal*.

THERAPEUTIC HINTS BASED UPON CERTAIN ARRESTED OR PERVERTED PHYSIOLOGICAL PROCESSES.

By J. A. McCORKLE, M. D.

The tendency of modern investigations is to build up a system of therapeutics based upon morbid anatomy : whereas the anatomical changes found at the post-mortem are but the sum total of disease. They give little or no clew to the successive steps between health and death. Structural disorders are not properly the disease ; they should be studied rather as the consequences of disease.

As therapeutists, therefore, we are interested not so much in pathological results as pathological processes. We speak for protopathic rather than to dentopathic causes. Thus the changed cell ; the disturbed secretion ; the imperfectly formed crystal ; the structural disorder, may be simply the expression of some widely extended influence, which it is the office of the physician to correct, if possible. I need but mention this sound rule of practice to render intelligible the facts and reasonings of my paper, based as they are upon certain morbid processes of the organism.

Physiological knowledge is essential for a proper therapeutical application. The more we study the physiological chemistry of the secretions and excretions, the better we are prepared to understand those changes which constitute departure from the normal—or disease, so-called.

In the study of some of the retrograde changes, we shall confine ourselves mainly to the nitrogenous elements of the body. In the regeneration and degeneration of tissue, oxygen plays the important part. It is the builder and destroyer, and, as found circulating in the blood, it is loosely combined, and very readily unites with carbon, hydrogen and nitrogen wherever found, and in this way it

picks up the used up and useless particles, combines with them, and even at the last gives to the body one more service—the production of heat. Its use is well known and utilized. The foulest streams become pure and fit for use under its influence: oxidation of the organic material takes place, and the harmful products become harmless.

The same chemical changes take place in the body. The blood stream would become contaminated were it not for the ever-present oxygen. It serves its purpose here, and poisonous organic compounds are rendered harmless, and easy of elimination from the organism. The albuminoids contain C. H. N. O. and S.

These elements are found everywhere in the inorganic world, and to the inorganic they return as carbonic acid, ammonia, and water: the carbonic acid to the air, from whence it came; the ammonia and water to the earth, from whence they came. This is termed retrograde metamorphosis, and the products of these retrograde changes are again used in the constructive metamorphosis. The growing plants takes up through its tiny rootlets the water and ammonia from the earth; it inhales through the underside of its leaves the carbonic acid, and by the action of the sunlight, the carbon is deoxidized and woven into the structure of the plant, and thus contributes to its growth, while the oxygen is given back to the air, pure and good, ready for animal respiration, and for use in the animal economy. Within the body it is carried by the blood to the tissues, and there it unites with the chemical affinities, C. H. and N., and by such union heat is generated, this being one source of animal temperature. The food taken by some process, and until more definitely understood may be called the “vital process,” is assimilated, changed, and, in the constructive metamorphosis, the high albuminoids are formed.

These high organic compounds are unstable, short-lived. They do their work quickly, and tend rapidly to form lower compounds, which change is readily effected by the ever-present oxygen in the blood. These, in turn, form lower and more stable compounds, which in their turn give place to others, until finally they reach the inorganic kingdom as carbonic acid, ammonia, and water—these being food for vegetables. And so the endless round goes on, ever-changing, yet the ultimate atoms always the same.

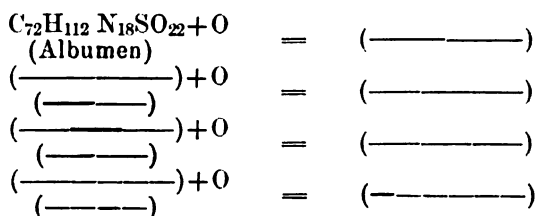
Thus the ingesta become vitalized, an integral part of a living organism. They live for a time, serve their purpose, and finally, through the process of oxidation, become useless, and, if retained, poison as surely as strychnia, corrosive sublimate, or the deadly night-shade. So long as the individual lives on the physiological plane, these changes go on without interruption ; but let there be a break for the process, a stoppage in the retrograde, and there results pain, discomfort, *disease*.

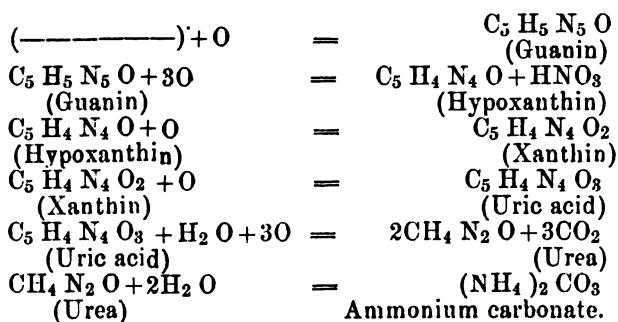
It is well known that nitrogen in the form of albuminous food is a powerful stimulant to the nervous system. The stimulation manifests itself in mental buoyancy, cerebral activity, and increased physical work. It also helps to liberate the stored-up force which nature has kindly provided against emergencies. This reserve is the "balance-wheel to the animal machine," and by its aid life goes on smoothly and evenly.

The physiological action of nitrogenous foods should put us on our guard concerning their use in the sick-room ; for if a patient be fed on beef-tea, mutton-broth, or similar foods, at the outset of a severe illness, they tend to liberate the reserve too soon, and the patient becomes exhausted, with no power to carry him past "the dead point of danger" when the crisis comes.

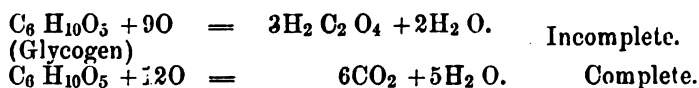
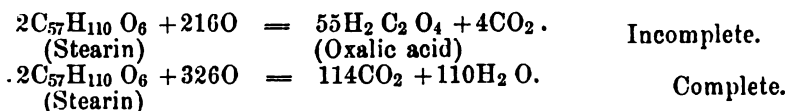
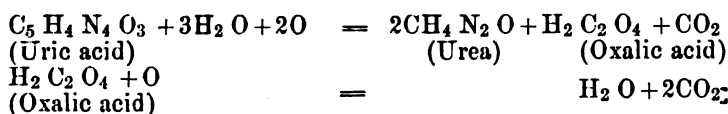
In the degeneration of the albuminoids, they lose none of their stimulating properties ; and when the products of their retrograde occur in undue quantities in the blood, they fret and irritate the nerve-centres until they respond to the over-stimulation by irregular action or convulsion ; or overwhelmed with the poison, the nervous system seems to respond, coma supervenes, and death speedily follows.

I herewith present some chemical formulæ as illustrative of this retrograde process. The following reactions have been taken from a recent and very excellent work, "Chemical Physiology and Pathology," by Victor C. Vaughn :





INCOMPLETE OXIDATION.



Of guanin, hypoxanthin and xanthin, little need be said. Our knowledge of these substances is too meagre to be of material aid in therapeutics.

Uric acid is the next step in the retrograde, and a very important one, from an etiological standpoint. It is the result of a physiological process, and represents a small portion of the nitrogenous waste. It is a less oxidized compound than urea, and practically insoluble, and when produced in large amount poisons the system, leading to the disease known as lithemia. It has its origin in functional, as well as structural diseases of the liver, and in diseases of the heart and lungs.

The albuminous portion of the food taken is supposed to be broken up in the liver into glycogen, urea, uric acid, and other waste nitrogenous compounds. For the amount of albuminous food

taken is far in excess of the amount required for tissue building : the excess is used as fuel and reserve.

Lithemia is a frequent concomitant of cardiac and respiratory diseases. It occurs whenever the circulation is markedly interfered with, especially on the venous side. The blood stagnates in the venous radicles, becomes loaded with carbonized and nitrogenous poisons, with little chance for oxidation ; hence imperfect combustion of the waste material, and, as a result, an excess of uric acid.

Especial attention must here be given to the weak, feeble heart. Digitalis is the remedy, par excellence. It increases the force of the heart by energizing the systolic movement by lengthening the period of cardiac rest ; it tightens up the arterioles and venous radicles, and brings the stagnant blood into the general circulation, in contact with air, and to a higher oxidation.

In diseases of the respiratory organs, whatever interferes with the arterialization of the blood tends to produce imperfectly oxidized products.

Another fruitful cause of lithemia is over-indulgence in nitrogenous food, with but little exercise. When the albuminous material is taken, with a liberal supply of alcohol, there is concurrence of action in this result.

Alcohol is a stimulant to digestion ; more food enters the blood than is needed for tissue building or functional work : Indeed all food taken in excess of the bodily requirements becomes not only useless, but positively injurious. No matter how valuable the material may be for nutrition when required, the *unused* becomes just as harmful as the *used up* when retained in the blood.

Furthermore, this *unused* material must be eliminated by some of the emunctories, the nitrogenous preferably by the kidneys. If imperfectly oxidized, it leaves the organism partly as uric acid, and as this substance finds its way through the gland cells of the kidney, it irritates until a low grade of inflammatory action is established, which leads more or less rapidly to cirrhosis of the kidney. The treatment here is plainly manifest and needs no further comment.

The uric acid is sometimes eliminated by the skin, and here it does mischief. Many persons suffer from urticaria after certain indiscretions in diet. Dr. Tilbury Fox says that this is frequently due to the circulation of uric acid in the blood, and the intolerable

itching may be explained by the oxidation of this material as it courses through the cutaneous capillaries, or becomes deposited in the tissues. It sometimes becomes almost unbearable, and as the patient scratches the skin it grows worse, for by so doing he removes the outside epithelial layer and brings the blood more nearly in contact with the air, thus favoring the burning process.

This action is somewhat similar to what occasionally happens after death, when the patient dies suddenly and the cutaneous capillaries of the face are well filled with blood. The blood becomes oxidized through the walls of the vessels, and the pallor of recent death gives place to the ruddy appearance of life—this being a source of great anxiety, and sometimes hope.

The physiological action of alcohol, already spoken of, leads to another injurious result. When used in health it interferes with the proper oxidation of the waste material by offering to the oxygen of the blood an easily burned carbo-hydrate. The alcohol is consumed, while the waste material escapes perfect combustion, and there results arrest in the retrograde. The relative amount of urea is diminished, while the products of imperfect oxidation are increased, especially uric acid.

The action of alcohol, harmful in health, leads to most excellent results when properly used in disease, especially those characterized by high temperature and rapid wasting of the tissues. In these cases it is valuable not only as a febrifuge and nerve-stimulant, but by offering to the oxygen of the blood an easily burned carbo-hydrate, it protects the integrity of certain important structures, especially the heart muscle.

In typhoid fever the muscles are liable to undergo a form of fatty degeneration; the high albuminoids fall to lower and less vitalized compounds, and with this change heat is evolved. If the fat thus formed is oxidized, carbonic acid and water result; if not, the degeneration of the albumen is more marked; for the heat of the body will be maintained at the expense of either food or tissue. If the albuminoid tissue used as fuel be imperfectly burned, a *greater* amount will be required to produce a certain amount of heat; but if the oxidation be completed the *least possible* amount will be used.

In some cases the degeneration stops at fat; the oxidation goes no farther; the patient loses but little in weight. This is unfortun-

nate ; for the patient suffering with an acute febrile disease, who does not emaciate with more or less rapidity, is in a dangerous condition. It shows that the reserve fund of the body has been invested in bad stock, and cannot be called on and utilized in the hour of need : the patient is a "physiological bankrupt."

This condition is well illustrated in the acute febrile diseases occurring in drunkards, in the badly nourished, and in the prematurely old. The blood soon becomes loaded with effete matter, the nervous system is poisoned by the noxious material, and death speedily follows with but little wasting of the tissues. Nature was unable to use the stored-up material, and the patient dies in consequence.

In the fatty degeneration of albumen, the nitrogenous portion becomes so much waste, and, if not eliminated, rapidly poisons the system, as manifested by certain unfavorable nervous symptoms. Urea represents the great bulk of this waste, but a portion leaves the body as ammonia, uric acid, and other products of incomplete oxidation. These may find exit by way of the urine, diarrhœa, sweat, expectoration, &c.

The blood in severe cases of typhoid fever, and in well-marked typhoid states, contains an excessive amount of ammonia, and for this reason the ammonia salts are contra-indicated in these cases. The general indications requiring arterial stimulants must be met with alcohol, digitalis, nux vomica, and similarly acting drugs.

Oxalic acid is the next change to the retrograde. This substance, although it contains no nitrogen, may occur from the splitting up of the albuminoids, as well as from starch and sugar. If the uric acid is imperfectly burned, urea, oxalic and carbonic acid result, which, being eliminated by the kidneys, irritate them, until organic mischief is established.

It is generally believed by physiological chemists that oxalic acid is a product, to some extent, of physiological change, and only does harm when produced in excessive amounts. It is a well-known rapid poison, but not so in the quantities found in the organism, from the arrest of physiological processes. Here it is not more poisonous than some other waste organic matter, until it unites with lime and forms lime oxalates. These minute insoluble crystals penetrate the tissues of the kidneys and bladder, and there act as foreign bodies, exciting disease.

Another danger of this arrested oxidation is, that the carbon which should be eliminated by the lungs, the proper emunctories for much of this kind of waste, is eliminated by the kidneys in an insoluble and very objectionable form, and often with disastrous results to these organs.

Again, this substance may be introduced from without, either as an ingredient of food, or as a medicine. Many vegetables and fruits contain it in abundance; but usually it is oxidized and becomes CO_2 and H_2O , and but little finds its exit from the body by way of the kidneys.

The production of oxalic acid, from arrested oxidation in the body, has often been demonstrated by feeding animals with uric acid. If the animal be allowed plenty of fresh air and exercise, the uric acid will be converted wholly into urea; but if it be confined or obliged to breathe air impure or limited in quantity, the uric acid will form urea, oxalic and carbonic acid, and the urine will contain oxalates.

In the light of this knowledge, we have no difficulty in understanding why oxalates appear in the urine as a concomitant of respiratory and cardiac diseases; for whatever interferes with the proper arterialization of the blood, or obstructs the flow of blood through the oxidizing area, will lead to imperfect oxidation in the retrograde.

The pathology is important in view of the treatment. That the latter may be successful, care and sound judgment are necessary. The general treatment *has* been nitro-muriatic acid, first, last and always. The mineral acids are useful as oxidizing agents, and are often indicated; but there are cases they cannot reach and cure, for the condition of oxaluria are not always the same, and the remedies suitable in one case may be inappropriate in another.

In this disease as in every other, the condition of the patient, time and mode of life, general health, the condition of the "tripod," all must be taken into account if we would prescribe intelligently and successfully.

If it depends upon disease of the respiratory organs, remove the cause and the symptoms will quickly disappear. If it depends upon a failing heart, sustain and strengthen this organ with that best of cardiac tonics, digitalis; add to the therapeutic action of this drug

that of *nux vomica*, and we have a combination unequalled in cardiac failure.

Persons suffering from chronic gastric catarrh often have oxalates in the urine, and we not infrequently, by ill-advised directions, aid the disease rather than the patient. In these cases the food is not properly digested and assimilated. It enters the blood unfit for the requirements of the body, and much of it goes at one in the direction of waste. This waste material must be disposed of. It was imperfectly prepared for nutrition. It is often imperfectly prepared for elimination, for the patient usually takes but little exercise. The mental depression and nervous symptoms are well marked, due to the noxious material floating in the blood. The blood-pressure is low; in short, the physiological processes are below the normal standard, and there results arrest in the retrograde.

For the dyspepsia, lime-water and milk are often prescribed. The lime-water is the very thing he ought not to take, for if the arrest occurs, let the offending material be eliminated in the least objectionable form, as oxalic acid, and not as the more harmful product, lime oxalate. Here soda will answer every purpose, and is immeasurably better.

Thus we find a simple remedy like lime water has its indications and contra-indications, the latter being sometimes the more important. Attention to the diet, especially the drinking water, and a careful study of the causation, should guide the therapy in oxaluria.

The chief function of the kidneys is to eliminate waste nitrogenous material; but under certain circumstances they will allow the passage of undecomposed albumen. This is of practical interest, for it is well known that albumen and hyaline casts occur in the urine under various conditions, and, at times without any manifestations of actual disease.

It has been observed that after great and prolonged muscular exertion, attended with free secretions from the skin, albumen and casts appear in the urine voided soon after; whereas an examination made sometime after gives no evidence of either albumen or casts, nor anything to indicate the great strain upon the muscular system, and likewise on the kidneys. Their presence in the urine may be explained as follows: When the sweat glands are freely active during prolonged muscular exertion, a large amount of water is

drained away, thus diminishing the volume and increasing the density of the blood.

Again, muscles at rest manifest a neutral or alkaline reaction; during exercise the reaction becomes distinctly acid, and the urine shares the acidity. Furthermore, muscular exertion increases the blood pressure; hence the heart, acting with increased vigor, drives the concentrated blood with unusual force through the arterioles and venous radicles, especially through the capillary plexus in the Malpighian tufts. Here the pressure is higher than in the general circulation on account of the resistance offered by the second capillary network in front. Under this increased pressure a portion of the blood serum is transuded, and with it a small amount of intensely acid urine. Thus the albuminous transudate (very different from an albuminous exudate) is poured out under the most favorable condition for rapid coagulation, and the urine voided, shortly after the prolonged muscular strain, will show albumen and casts in more or less abundance.

During the period of rest following, the blood pressure falls to the normal, the volume of blood is quickly restored, the water is again secreted in normal quantities, the albumen and casts are washed out of the tubes, and in a short period not a trace of them can be found in the urine; and could we examine the kidney at this time, no microscopic or chemical reagent would be able to detect any departure from the normal.

Here the presence of albumen in the urine is transient, and in the absence of other rational symptoms and physical signs possesses no clinical significance whatever.

Reference has already been made to the acidity of the urine. The secretion is normally acid, but may become excessively so, and thereby induce changes within the body which should only take place after voiding. One cause of alkaline urine is excessive acidity, a factor in disease too often overlooked in the treatment. It seems contradictory that excess of acid should render the urine alkaline. It may, however, be thus explained:

If the urine, when secreted by the kidneys, is intensely acid, it may irritate the walls of the bladder, which quickly pour out a large amount of mucus. This substance acts as a ferment, decomposing the urine, and forming ammonium carbonate, which renders the urine alkaline, and in turn gives rise to cystitis.

The proper treatment for the alkalinity and the evils that attend it is an alkaline course, not on the principle of "*similia similibus*," but upon that basic principle of all true therapeutics, good common sense.

Urea is the highest oxide known in the nitrogenous retrograde. Uræmia, the disease arising from the retention in the body of this and other waste products, has been recently so fully discussed in this Society, that I will not enter upon its consideration further than to say: when we find a number of theories offered in explanation of any phenomenon, it indicates a lack of positive knowledge as to the causation.

There is one more change in the retrograde which is of especial interest to the surgeon. I refer to the breaking up of the organic substance, urea, into the inorganic ammonium carbonate and water. All are aware of the difficulties attending the management of open wounds along the genito-urinary tract, especially those of a fistulous nature. The wound is apt to become covered with anaplastic material, and the healing process greatly retarded, if not actually prevented. The cause of this condition is apparent in view of the last change in the nitrogenous elements from the organic to the inorganic.

In an open wound over which the urine flows there must of necessity be a smell amount of the excretion retained. No matter how small, there will be enough for decomposition, and the change will take place very rapidly, for the substance is placed under the most favorable conditions for rapid chemical decomposition, heat air and moisture being present. The urea becomes rapidly decomposed, and the resulting ammonium compound is very irritating, for the reason that ammonium is a powerful base, and has a stronger affinity for the fatty acids of the tissues than for carbonic acid; hence the latter is liberated, and there is formed ammonium oleate, margarate and stearate, or a true soap. Necessarily this means death to the tissues; for when we take from a living organic compound any of its constituents, death of the part is the inevitable result.

This is a dangerous condition and must be promptly met by measures which will either prevent the formation of the destructive agent, or neutralize it when formed. To do this the agent used must possess certain therapeutic properties.

1st. The medicinal agent must be non-irritating.

2d. Ammonium must have a stronger affinity for the agent used than for either carbonic acid or the fatty acids of the tissues.

3d. If a chemical change does take place, the resulting compound of ammonium must be non-irritating.

Attention to cleanliness and a strict observance of these three general principles of treatment should guide our practice in the management of these cases.

A solution of benzoic acid possesses, in an eminent degree, all the essential therapeutic properties already mentioned. The acid solution in itself is non-irritating, and perhaps acts by its anti-fermentive properties, thus preventing the splitting up of urea; but should decomposition take place, the acid will unite with the ammonium and thus protect the tissue from the harmful product. The resulting compound, ammonium-benzoate is non-irritating and harmless. In fact, by the chemical change a destructive agent is converted into a remedial one, passing about the same anti-fermentive properties as the acid itself.

Boracic acid is another agent of equal, if not greater value. It is one of the most lasting anti-ferments we possess. No doubt in genito-urinary wounds it acts mainly as an anti-ferment, thus preventing the decomposition of urea, and by its gently stimulating properties promoting the healing process.

Under certain conditions boracic acid decomposes ammonium carbonate, and if the reaction takes place, only benefit can result. The ointment of the acid is an excellent remedy for erythematous eruptions found on the buttocks and thighs of children, whether due to neglect, or to the irritation of acid, or decomposed urine. For a full account of the therapeutic action of this remedy in surgery, I would refer the members of this Society to an excellent article in the *Boston Medical and Surgical Journal*, August 26th, 1880, by Professor Wm. Warren Greene. The observations of such an able surgeon and excellent therapist are justly entitled to our respect.

Other remedies may be used with advantage, but the benzoic and boracic acids are rational in theory, and eminently successful in practice.

In this review of some of the known changes brought about by

physiological processes, and the diseases arising from their arrest or perversion, we have endeavored to show how a proper physiological and chemical knowledge may lead to their rational treatment. Here we have the successive steps in the physiological retrograde as far as known; but between albumen and the lowest oxide known to physiological chemists, there is a long distance, and many changes must take place ere these are reached.

Reasoning from the known to the unknown, may we not rationally infer that some of the diseases, the causes of which are involved in obscurity now, depend upon arrested or perverted metamorphoses in these initial and as yet unknown changes? Much of our knowledge upon the subject of regeneration and degeneration of tissue is still crude and imperfect, but I trust it is the dawning of a brighter day in medicine. When physiologists and physiological chemists shall have done their work more perfectly, and we have learned to look *within*, as well as *without* the body for causes of disease, then will empirical medicine give place to rational therapeutics, ignorance to knowledge, and vague theories to established facts. Then will much of the guess-work of to-day be supplanted by certainty, and in the brilliant light of positive knowledge, the now doubtful chapters on etiology will become resplendent with practical truth and the main contribution to therapeutical progress.—*Proceedings of the Medical Society of the County of Kings.*

A RARE FORM OF SYPHILITIC STENOSIS OF THE LARYNX.


M. Heinze described a stenosis of the larynx produced by the adhesion of the epiglottis to the posterior wall of the pharynx. The fibrous adhesions were divided with the galvano-cautery, but so serious a hæmorrhage resulted that ligature of the external carotid was resorted to. M. Krishaber has observed, after the partial excision of the epiglottis, an almost fatal hæmorrhage, which did not cease till after syncope had set in.—*London Medical Record.*

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

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THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

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THE ADULTERATION OF FOOD SUBSTANCES OR DRUGS.

It has been our intention to notice earlier the movement made towards the prevention of the adulteration of food and drugs, by an act of Congress. The inauguration of this very laudable work was begun by the *Sanitary Engineer* chiefly, although it has been an objective point of other journals published in the interests of sanitary reform.

The National Board of Trade awarded prizes for three of the best essays accompanied with Acts designed to prevent the injurious adulteration, and to regulate the sale of food, without imposing unnecessary burdens upon commerce. The announcement of this award by the Committee composed of Dr. John S. Billings, U. S. A.; Ex-Chancellor B. Williamson, of New Jersey; Prof. C. F. Chandler, President of the New York Board of Health, and A. Hardy, Esq., of Boston, was accompanied by timely remarks on the general subject under consideration, from which we quote:

"1. In view of the statements which for the last two or three

years have from time to time been made with regard to the prevalence in this country of adulterations of food which are dangerous to health and life, and which have created so much agitation in the public mind, as to induce the National Board of Trade to establish this competition, it is very gratifying to find that none of the essayists produce any definite or satisfactory evidence as to the widespread existence of such dangerous adulterations in this country.

“The absence of such evidence, in addition to the results recently obtained by several expert chemists in extensive series of analyses of the usual articles of food in this country, which results have been made known to the committee; fully warrants us in declaring that none of our staple articles of food or drink are so commonly adulterated as to be dangerous to health or life. Such dangerous adulterations appear to be mainly in the form of poisonous colors or coloring matter, as, for instance, in confectionery, and even these are rare.

“2. The question of the adulteration of food, with perhaps the exception of milk, should therefore be considered not so much from a sanitary standpoint as from that of commercial interests; as being of the nature of a fraud, in aiding the sale of articles which are not what they are represented to be. The main objects of legislation upon this subject should be to prevent deception, to furnish to the public authoritative information, and to nullify the operations of ignorant and sensational alarmists, who damage the business interests of the country quite as much as do the evils of which they complain.

“3 We are of the opinion that there is much more danger to health and life in this country from adulterated drugs than there is from adulterated food, and that any legislation which is to deal with the one should also deal with the other.”

The committee goes on to show how difficult it is to frame laws which would protect against adulterations and at the same time not be burdensome to commerce. That while it is highly desirable that the general principles of legislation should be the same in all the States, they do not believe it possible to obtain by State laws absolute uniformity in the details. They do not believe that any law against adulteration can be made efficient without a properly constituted authority to supervise its execution. The questions in-

volved are in a high degree technical and require special training in those charged with administering the law. They believe that every State should have a Board of Health, but such Boards should be created by independent legislation.

The bill subsequently prepared, and sent with a memorial to Congress from the National Board of Trade, contains the following features :

1. That no corporation or person shall knowingly transport from State to State, or import into a State for sale, any article of food or drugs adulterated within the meaning of the law, under penalty of fifty dollars.

2. Relates to adulteration in the District of Columbia.

3. If imported drugs or food are found to be adulterated, a return to that effect shall be made upon the invoice, and shall not be permitted to pass the Custom House, unless on reëxamination it shall be found said articles are not adulterated.

4. The owner or consignee shall have the privilege of calling at his own expense for a reëxamination, and upon certain conditions a careful analysis by a competent chemist shall be made. But if the articles prove to be adulterated after this second examination, they shall be disposed of in accordance with regulations to be prepared by the National Board of Health and approved by the Secretary of the Treasury.

5. The National Board of Health shall submit to the Secretary of Treasury names of competent persons, from which list the Secretary of the Treasury shall appoint inspectors at such ports of entry as he deems expedient.

6. The National Board of Health shall from time to time make examination of specimens of food and drugs collected under its direction in various ports of the country, and shall publish the results in the weekly bulletin.

7. This section provides for the mode of procedure against violators of the law.

8. Defines what articles shall be deemed adulterated, *first* as to drugs and *secondly* as to food or drink.

9. Provides for the publication of a list of articles declared to be exempt from the law, and that the National Board of Health shall fix the limits of variability permissible in any article or compound.

10. The term "food" is used for every article for food or drink by man, and the term "drug" shall include all medicines for internal or external use.

It will be seen from the above that the provisions of the law are reasonable, and will accomplish the purposes with the least disturbance and injury to commerce. The whole matter has been carefully digested by competent persons, and in some shape or other will finally become the law, we have strong hope.

THE TWENTY-EIGHTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF NORTH CAROLINA.

At the approaching meeting in Asheville on the 31st of May, the Medical Society has to consider many important questions. We have reached a crisis in our interests, requiring the most careful and earnest consideration on the part of every member of the Society, not to save us from disaster, but to push forward with manly efforts the reforms which have been undertaken with partial success, for a quarter of a century. Not to move forward now is to retrograde. Our advanced position has attracted the attention of opponents,—wily, able opponents,—who have already attempted to cripple us and even annihilate the foundation upon which we have thought ourselves so securely entrenched. Fortunately for us, the few members of the Society who could be summoned to defend our interests before the Committees of the last Legislature, succeeded in making it plain to the majority of the gentlemen composing these Committees, that it would be detrimental to the best interests of the people and the medical profession to alter or amend the fundamental law upon which our State Society and the medical profession rests.

It will be remembered that it was the desire of the State Society to get the Edgcombe amendments to the Board of Examiner's Law enforced, making it a misdemeanor to practice medicine without a license ; but it was ascertained at an early stage of the session of the Legislature, that the mere mention of the desire on the part of the Medical Society to secure such a law, was being used as an

argument against all legislation in favor of the Board of Health and Board of Examiners.

The one thing most apparent to the Committee from the State Board of Health was that the individual members of the Legislature lacked the necessary information to enable them to decide upon the necessity of sanitary reform ; to know the scope of the sanitary work laid out by the State Board of Health ; and lastly to know why such work should cost any considerable sum of money. The Medical Society being a quarter of a century in advance of the public, did not see to it that the people were educated up to the necessities of the case. It was all left to the Board of Health. But *with only two hundred dollars a year*, only a tithe of this preliminary work could be accomplished. We are indebted, and desire to express our acknowledgements here to the *North Carolina Presbyterian*, the *Wilmington Morning Star*, and the *News and Observer*, for the aid they have give us since the inauguration of our work.

The Committee from the Board of Health found it necessary to make some very elementary statements to members of the Legislature. Had the Medical Society worked diligently from the time of adjournment last May until this January, there would have been no doubt of our success, because the members of the Legislature would have gone to Raleigh with some definite impressions that we were all in earnest.

We do not care to disguise our impatience because of the apathy of the great body of our medical organizations. These three bodies combined, did not exert themselves as much as the individual members would at a municipal election. Three or four men at their own expense shouldered the burden, but their zeal only served to create the impression with the legislature, that these few men were after some private aggrandizement.

It is the duty of the Society and its auxiliaries, the Board of Examiners and Board of Health, to lend a continuous, and extended, and zealous hand, to the education of the representatives of the people up to our standpoint. There should be a committee from every county in the State represented in the State Society, to canvass thoroughly and continuously among the people, and the President of the Society should see to it that none but working men should go on those committees.

The literary contributions at the Asheville meeting should be more meritorious than at the last meeting. The regular literary contributions expected are as follows :

Dr. John McDonald is the essayist. Dr. J. F. Long is the orator. Besides these, the President will deliver an address. We are not informed as to the subjects chosen by either of these gentlemen.

Dr. Alman Holmes is Chairman of the Section on Surgery and Anatomy ; Dr. Willis Alston, on Obstetrics and Gynæcology ; Dr. I. W. Faison, on Practice of Medicine ; Dr. W. C. Murphy, on Materia Medica and Therapeutics ; Dr. Hubert Haywood, on Microscopy and Pathology ; Dr. George Gillett Thomas, on Ophthalmology.

Sections heretofore have done very little, and we trust the present appointees will give us some good work.

LEGISLATION ACCOMPLISHED CONCERNING THE MEDICAL SOCIETY AND ITS AUXILIARIES.

The amendments to the Board of Health Law asked for, were not many. A bill passed the Senate with the following features : Experts were to be employed when necessary to make investigations ; a supply of vaccine was to be kept on hand for free distribution in times of emergency ; the pay of the Superintendent of Health should be such sums as the County Commissioners should determine in each county ; the clause making the Chemist of the Agricultural Experiment Station, medico-legal analyst was stricken out ; eight hundred dollars a year was allowed to carry out the provisions of the law.

As reasonable as this bill was, owing to some misunderstanding between the friends of it in the House, it was lost on its second reading.

A law was passed, making it obligatory on the listers of taxes to give in certain matters of information in writing, with their lists, viz :

Whether the party is married or single, or widower ; number of

births in the family for the year preceding; number of deaths; and if any of the following diseases have occurred in the family for past years: small-pox, diphtheria, scarlet fever, cholera, yellow fever.

This is a very elementary law, but we believe it is one that will be of service as far as the collection of statistics is concerned, and also as an opening wedge for a completer system.

We owe to Senators J. S. Battle, V. V. Richardson, H. E. Scott, and other gentlemen in the Senate, our thanks for the intelligent appreciation which they accorded to the Committees from the Board of Health, and we expect the Medical Society to make a formal recognition of their services.

THE PRESENT STATUS OF THE NORTH CAROLINA BOARD OF HEALTH.

It is a misfortune to be so far in advance of the representatives of the people in matters of sanitary reform, as to have no considerable following at your back. It is a perplexing thing to be commanded by the State "to take cognizance of the health interest of the citizens of the State; to make sanitary investigations and enquiries in respect to the people, and employ experts when necessary; to investigate the causes of diseases dangerous to the public health, especially epidemics; to search for the sources of mortality," and inform yourself about "the effects of locations, employments and conditions upon public health; to gather information from all these matters for distribution among the people, with the especial purpose of informing them about preventable diseases; to be the "medical advisers of the State," "and advise the government in regard to the location, sanitary construction and management of all public institutions, upon application of the proper authorities, and direct the attention of the State to such sanitary matters as affect the industry, prosperity, health and lives of the citizens of the State," and then when you ask the State how we can do all these things on the pitiful sum of *two hundred dollars a year*, to be answered by gross neglect.

This the State of North Carolina has done for her Board of Health, and not being satisfied with this, she has added the additional burden of compiling vital statistics from the returns of the tax assessors.

Are we not right in saying the situation is perplexing? Would not less amiable people turn away with disgust at the preposterous demands? But we plod along, spending our own money to do the work which the State makes no provision for; risking the sneers of the advanced sanitarians of the rest of the country, who must not know of our family poverty; carrying patiently a burden which is properly that of the whole State, with only the faint hope that at last our generous mother will be attracted by our dutifulness and relieve her overburdened sons.

It may be idiocy to persist in working against all these adverse circumstances, but the medical profession is determined to make the record of its willingness, of its intelligence, of its desire to promote the best interests of North Carolina. If all fails, then the stigma rests upon the State. If the civilization of our people is on such a low plane that they cannot see their necessities for sanitary improvement in their public buildings, and in their homes, must we wait until intelligence is more diffused, or strive to raise them up? Our burden is now already very great, but we will still strive on, hoping for that better day, when the people will demand that their representatives shall come to our relief.

Extirpation of the Pylorus.—Prof. Billroth on the 29th January performed a partial excision of the stomach on account of advanced carcinoma of the pylorus, the first case which up to the present time has been attended with success. Seventy years ago Karl Merrem showed by experiments upon dogs, that the pylorus might be excised, and recommended the procedure in incurable cancer.

After Billroth showed that portions of the œsophagus may be cut out in dogs, Czerny first performed this operation in man. The first surgeon who performed excision for cancerous pylorus was Péan in 1829; it was unsuccessful.

Billroth's operation of extirpation was done under chloroform and lasted 1½ hours. Fifteen days after the operation was performed the patient had continued to improve.

REVIEWS AND BOOK NOTICES.

A MANUAL FOR THE PRACTICE OF SURGERY. By THOMAS BRYANT, F. R. C. S. Surgeon to, and Lecturer on Surgery at Guy's Hospital, &c. Third American, from the Third Revised and Enlarged English Edition. Edited and Enlarged for the use of the American Student and Practitioner. By JOHN B. ROBERTS, A. M., M. D., Lecturer on Anatomy in the Philadelphia School of Anatomy, &c. With 735 illustrations. Philadelphia: Henry C. Lea's Son & Co. 1881. Pp. 1005.

A good work on Surgery to be acceptable to the student, need not be filled with original methods of the author, or be voluminous and learned; but it must be what Bryant's Surgery has proven itself to be in all matters appertaining to the practice of the art, and science of Surgery. We have here in a volume of one thousand pages, all that is needful as a text-book for daily consultation. The Editor, too, has caught the design of the author, and has added enough of American practice to make the work as acceptable to the student as a purely American work, without materially altering its English individuality.

The first chapters of the work are devoted to repair, inflammation, abscess, sinus, ulcers, bed-sores, mortification, hospital gangrene, erysipelas, erythema, traumatic fever, septicæmia, and hectic fever. These fundamental subjects as well as those on animal poisons, and tumors, are taught with that clear brevity, which only a skilled teacher can command.

It would be useless to attempt an analysis of Bryant's Surgery in our pages, we can only write in general terms.

There is one department of surgery taught in this volume which is not dwelt on at all by surgical authors, especially those in this country: we refer to sections on diseases of the teeth. This will make it very valuable for general practitioners in the sparsely settled districts of the South. This section was written by Mr. Henry Moore. The anatomy, order of irruption, and diseases of the teeth, diseases of the nerves, remote nervous affections, and caries, together with the operations of excavating, plugging ("stopping" is the peculiar English word for it) and pivoting and extracting teeth, are treated of at length.

The surgery of the female genitals, which has been heretofore taking a subordinate place in works on general surgery, receives at the hands of Mr. Bryant, a sufficient treatment.

This American edition is complete in one volume, instead of two, as in the English edition. It is a handsome specimen of typography and binding,—the type being clear, and the binding of half-Russia. The publishers deserve the increased patronage of the medical profession for producing at a small advance over the cost of sheep this handsome and attractive binding, and they will doubtless receive it.

SYPHILIS AND MARRIAGE. Lectures Delivered at the Saint Louis Hospital. Paris. By ALFRED FOURNIER, Professeur a la Faculté de Médecine de Paris, &c. Translated by P. ALBERT MORROW, M. D. New York: D. Appleton & Co., 1, 3, and 5 Bond Street. 1881. Price \$2.00.

These lectures deal with a very difficult subject, one that has caused a great deal of trouble and anxiety to physicians in their double office of medical adviser and friendly counsellor. Professor Fournier has most ably traversed the subjects in all its aspects. The captions of the chapters will show in outline what has been attempted.

The preliminary questions, how the marriage of syphilitics presents itself to the physician in practice; the grave responsibility incurred by the physician, and the deplorable results of an error; the precise rôle of the physician when consulted; absolute necessity for the physician to judge the question from an exclusively medical point of view; the preliminary question, "Does syphilis constitute an express interdiction, an absolute obstacle to marriage?" Save very rare exceptions, syphilis constitutes only a temporary interdiction to marriage.

The second chapter treats of dangers due to syphilis by marriage,—direction contagion. And in the order in which we mention them: syphilis by conception; paternal heredity; mixed heredity; maternal heredity; personal dangers of the husband; conditions of admissibility to marriage;—absence of actual specific accidents,—advanced age of the diathesis; prolonged period of immunity, non-menacing character of the diathesis; sufficient specific treatment; the use of sulphur waters.

The second part of the work treats of syphilis after marriage, as follows : in cases where the husband is syphilitic and wife healthy ; in cases where the husband is syphilitic, and the wife healthy but enciente ; husband syphilitic and wife recently contaminated ; husband and wife syphilitic, wife enciente ; dangers to society ; social prophylaxis.

These lectures will be read with great interest, while at the same time we suspect that many American readers will not be able to endorse them entirely. The physician who finds himself face to face with an anxious young syphilitic wife, who must know what means all this change in her health since marriage, will hardly meet a case having so many difficult phases, as not to find a counterpart in Professor Fournier's work. It is a valuable addition to the literature of the subject, a subject so far unique in this country ; which does not mean, however, that nearly every experienced physician in all countries, has not worked out most of these problems with sagacity and common sense from his own knowledge of syphilitic phenomena.

CLINICAL LECTURES ON THE PHYSIOLOGICAL PATHOLOGY AND TREATMENT OF SYPHILIS. Together with a Fasciculus of Classroom Lessons Covering the Initiatory Period. By FESSENDEN N. OTIS, M. D. New York : G. P. Putnam & Sons, 182 Fifth Avenue. 1881. Pp. 116.

In these lectures Dr. Otis has taken the ground that the infection of syphilis is accomplished, not by a mysterious virus as held for so many years, but consists in a process of cell-growth and accumulation.

The syphilitic cell-accumulation progresses in all directions, as has been proven, until an entrance of the vitiated cells into a lymphatic vessel is effected. The nidus of induration once formed during this delay, may, under certain conditions, continue to increase, or it may remain stationary for a definite period ; or, on the other hand, through the ordinary processes of tissue metamorphosis, it may soon disappear. Thus the varying interval between inoculation of syphilis and the appearance of the induration may be reasonably accounted for by the distance of the inoculated surface from the nearest lymphatic vessel, as the accumulation must necessarily progress until such vessel is reached. This distance is known to differ greatly in different localities. P. 13.

The nature of the infection is through an incorporation of the degraded germinal cell (disease-germ of Beale) into the substance of the white blood cell, *and its proliferation with this cell*. Stimulated in this manner to unhealthy activity, cell proliferation would appear to be capable of producing the abnormal cell accumulations which is found thus far characteristic of the progress of syphilitic infection; and, beside this, we have no other way of accounting for them. P. 15.

"The current of the fluids which everywhere permeate the tissues is not in the direction of the blood-vessels, but of the lymphatics, and thus we can understand why the progress of the syphilitic infection physiologically considered should be just as we found clinically—not penetrating, pervading the tissues, instantaneously, at the moment of inoculation and in defiance of all natural laws, but progressing slowly, certainly, physiologically, from the surface of the inoculation through the contiguous and previous lymph spaces into the lymph channel nearest, and thence directly into the substances of the lymphatic gland with which it has direct connection. P. 15.

We have not time to follow further Dr. Otis' opposition of irrational teachings that of those who look upon the poison of syphilis as a "vicious entity", "a corpuscular devil". We advise our readers to go carefully through these lectures, and they will be satisfied that with the author's teaching as a basis of practice, a more rational and successful result will ensue.

HERNIA, STRANGULATED AND REDUCIBLE. With Cure by Subcutaneous Injections. Together with Suggested and Improved Methods for Kelotomy. Also an Appendix Giving a Short Account of Various New Surgical Instruments. By JOSEPH WARREN, M. D. With Illustrations. Boston: Charles N. Thomas, 215 Fremont Street. 1881.

We have read this book with great interest and sincerely wish we could enter into the enthusiasm of its author as to his methods for curing hernia.

The method of Dr. Warren is a modification of that by Dr. Heaton, which consists essentially in the hypodermic injection of a "solution of *quercus abla*," a process called by Dr. Warren, "the

method of tendinous irritation." "Previous operators have relied upon suppuration to produce their cures; Heaton tried to avoid it. In this is the element of his success, but as will be hereafter seen, I soon after abandoned the simple fluid extract of oak bark which Heaton had used, and produced by a more stimulating preparation a much more abundant effusion of sero-lymph. That, however, Heaton did, by his simple injection, effect wonderful cures, can be doubted by none. The following is a fair example of his success:

"A soldier by the name of Pilcher was ruptured in the femoral region at the battle of Big Bethel, and was discharged in the latter part of May from the service for physical disability caused by said rupture. Dr. Heaton operated upon him in June, and after the operation the man again enlisted as a soldier in the following September, and served his three years without sickness or return of his rupture. * * * I examined this man in March, 1880, and he is still fully cured."

The author describes minutely his peculiar plan of operating. He thinks the use of an ordinary hypodermic syringe would be an operation attended with much danger, not only from the liability of penetrating a portion of the pubic and epigastric arteries, but also because the instrument would be a poor and feeble one for thorough and successful operations on hernia, since it is well known that the needle has to act in some as a staff and guide in slightly lifting up, as it were, the integuments, which are often thick, and supplemented by excessive adipose tissue. P. 148.

The author's syringe is figured. The needles are flat and twisted spirally. "Having selected the most suitable points over the rings to be injected, we now thrust the needle slowly and gently, but at the same time firmly, through the integuments. During this act the needle revolves because of its twisted form. As soon as it has passed through the integuments, pressure is made upon the spring, which opens a valve, and allows the fluid in the barrel to flow as slowly and in such quantities as the operator may in any given case think necessary."

The descriptive and surgical anatomy of hernia is entered into at length, as also the history of the origin of this peculiar operation.

We trust this operation may have a fair trial, and that the results may be honestly and carefully stated in future contributions. We

have not had so far an opportunity to test its value. The book should be carefully read as it has peculiar merits, among others a marked degree of individuality.

AT HOME AND ABROAD. A Monthly Journal of General Literature and Information. G. D. BERNHEIM, D. D., LISETTE C. BERNHEIM, and FLORENCE E. BERNHEIM, Editors and Proprietors. Subscription \$2.50 a year. Single copies 25 cents.

We welcome the first appearance of this Journal with hearty good will. It has a handsome face, and an instructive and entertaining interior. The editors enter upon their work with earnestness and determination, and bring to the editorial chair gifts which have been cultivated in well-known fields.

The Rev. Dr. Bernheim is well and favorably known as a historical scholar, being the author of a volume entitled the "History of the German Lutheran Settlements in North Carolina." Miss Lisette C. Bernheim has for some years past been a successful contributor to several prominent journals.

It is gratifying to every true Carolinian to see this additional manifestation of our growing literary taste, and such an enterprise as this will be an ornament to the world of letters. Education and refined literature go hand in hand, the one can not exist without the other. We are all interested in education, and the promotion of literary standards can best be obtained by supporting freely those who risk their talents and money in its development.

We ask our friends to examine the first number and to subscribe with the beginning of the volume.

FIRST BIENNIAL REPORT OF THE NORTH CAROLINA BOARD OF HEALTH, FOR THE YEAR ENDING DECEMBER, 1880.

Had there been no medical journal in North Carolina, there could have been no State Board of Health now in existence. Four years ago, with nothing a year, and the interest in, and knowledge of, sanitary matters at a low ebb, this Board struggled into light. Nearly two years after its organization, when one of its officers went to register his name at the meeting of the American Public Health Association in Richmond, he was twitted with the fact that he belonged to a Board of Health that received the magnificent sum of

one hundred dollars a year from the State. These four years have been years of anxiety and hardship, but little known to any one but the Secretary. How he has kept life in a body with \$100 a year for two years, \$200 a year for two years, will not now be rehearsed. It is only spoken of as proper explanation for the appearance of so elementary a volume. Who have been the helpers in the work will appear by examination; that but few who promised have been helpers will be apparent. That the Board of Health could have done better if the proper spirit and industry had been brought to bear, cannot be doubted. That there is any report at all, the people who entrusted this matter with the State Medical Society should be thankful. That this pioneer volume may urge the members of the Board and the profession to a becoming zeal in the next two years, we sincerely hope, and we have a right to expect.

We have had too much personal share in this little volume to speak of its merits or demerits. We present it to our readers as an earnest of what we desired to do.

This JOURNAL has devoted all of its earnings to the advancement of the North Carolina Board of Health, and it is now time that the burden should be lifted. We appeal to the medical men and to the philanthropic citizens of our State, to come to our help. We have shown what a vast work can be shaped by the assiduity of a few heads, and of a few dollars, it will be disgraceful if stout hearts, willing hands, and fertile brains are not from this time forth engaged to keep it going.*

A PRACTICAL TREATISE ON DISEASES OF THE SKIN. By LOUIS A. DUHRING, M. D., Professor of Diseases of the Skin in the Hospital of the University of Pennsylvania, &c., &c. Second Edition. Revised and Enlarged. Philadelphia: J. B. Lippincott & Co. 1881. Pp. 644. 8vo. Price \$6.00.

This valuable work has reached its second edition, and is enlarged by the addition of one hundred pages, many chapters having been re-written. It was received with high commendation by dermatologists in this country and Europe, and is to day the "best

*The Report was printed in Raleigh and the proof read there; typographical errors are glaring and numerous.

general treatise on diseases of the skin that has ever appeared in any language."

The classification is that of Hebra modified, and "is based upon anatomical and pathological grounds, with the exception of the last class—*Parasitæ*, which is etiological." Descriptions of skin disease, however accurate, cannot portray it vividly enough to serve as a ground for diagnosis for the student. Dr. Duhring has supplied this deficiency in his beautiful "Atlas of Skin Diseases."

We notice that in speaking of "chiggers," Dr. Duhring says of the Florida insect of that name that it is a red mite, and it is probably *leptus irritans* (red-bug of the Southern States) and that it should not be confounded with the real "chigger." A friend who practiced for some years in Florida informs us that he has seen there many patients with real chiggers in their feet, and that they bore no resemblance to red-bugs, (*leptus irritans*) but were burrowing insects, making sacs of considerable size, requiring much dexterity to remove properly without leaving ova behind.

Ainhum is not exclusively a disease of India, Asia and South America. Dr. N. J. Pittman, of Tarborough, N. C., presented a specimen of this disease to the Medical Society of North Carolina at its last meeting in Wilmington.

It is difficult to speak in measured terms of a work so thorough and practical as this one, so we shall advise our readers to make its acquaintance at an early day.

THE NEW CYCLOPEDIA OF FAMILY MEDICINE. OUR HOME PHYSICIAN. By GEORGE M. BEARD, A. M., M. D. Assisted by Physicians in the Departments of Hygiene, Surgery, Eye and Ear Diseases, and Diseases of Women and Children. New York : E. B. Treat, 805 Broadway. (Twenty-two numbers 50 cents each.)

To those who are only familiar with the antiquated volumes of Buchan, Thomas and others, and the more recent trashy works on Family Practice, they can hardly conceive of the value of Beard's Cyclopædia. In these days when many of the best family newspapers have column upon column of misleading paragraphs about the functions of the body, and the value of certain remedies as applied to their cure, there is a seeming necessity that there should be

some source of knowledge to which the bewildered might go for information. Of the value of this work to the general reader, especially of those who must by necessity of their remoteness from medical aid, do the best they can until the doctor comes, it can hardly be overestimated.

The family possessing such a volume would be only the better customers of the doctors, and all the better patients.

We especially ask the attention of our country friends to this excellent work.

THE TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.
Vol. XXXI. Philadelphia: Printed for the Association. Collins, Printer, 705 Jayne Street. 1880.

This is a huge volume of 1284 pages, giving the account of the meeting of the Association in New York last June.

This meeting was noted for the very large attendance, as well as for the large number of papers presented.

When it devolves on an editor to review such a bulky volume, he cannot help wishing that the Society should follow the advice given first by Dr. Gross, then by Dr. Chaillé, and subsequently by Dr. Sayre, that these papers should be published in monthly installments as the *British Medical Journal* does the Transactions of the British Medical Association, and this JOURNAL does the Proceedings of the North Carolina Society. A large part of the work of the Association in New York was reported daily in an extra issue of the *Medical Record*.

We gave an outline of this meeting in June and July Journals, and this must suffice as a commentary. This volume can never be more than a reference book, but it should be in the possession of every American physician for this reason.

THE DRUGGIST'S HAND-BOOK OF PRIVATE FORMULAS. By JOHN H. NELSON. Cleveland, Ohio. Seventh Edition. Pp. 338.

This volume gives reliable formulas for preparing well-known medicines not known in the U. S. Dispensatory or Pharmacopœia. We have had occasion to consult it frequently since it came to our notice, and we have found it a great convenience. The physician frequently comes across formulæ for preparations of value, in cur-

rent literature, which might be serviceable to him if he kept the record of them. This little work accomplishes this for him, and while it was specially intended for the druggist, it serves the doctor a good end too.

MORTON'S POCKET SERIES. No. 2. APHORISMS IN FRACTURE.

By R. O. COWLING, A. M., M. D. Price 25 cents.

This little work originally appeared in the *Louisville Medical News*, and was favorably received by the profession. In its present shape it appears revised and improved, and is a neat specimen of typography. Jas. P. Morton & Co., Publishers. Louisville, Ky.

UNOFFICIAL PHARMACOPEIA. By PROF. OSCAR OLDBERG, Phar. D. Medical Purveyor U. S. Marine Hospital Service, is announced by Presley Blakiston to appear immediately. It will comprise over 700 popular and useful preparations not official in the United States.

LARGEST BOOK PUBLISHED.

The edition of Webster's Unabridged Dictionary recently issued, in the quantity of matter it contains, is believed to be the largest volume published.

It will surprise many readers to know that it contains eight times the amount of matter in the Bible, being sufficient to make 75 12mo. volumes that usually sell for \$1.25 each ! Its vocabulary comprises over 118,000 words (4,600 of which have recently been added).

It has a new Biographical Dictionary, giving brief important facts concerning 9,700 noted persons.

There is a Memoir of Noah Webster, a brief history of the English language, Principles of Pronunciation, Lists of 4,000 Scripture Proper Names, 700 common English Christian Names, several pages of Proverbs, &c., a vocabulary of Names of Noted Fictitious Persons and Places, and many other valuable features,—all of which, in a volume of 1,928 pages, embellished with 3,000 Engravings, go to make up a great store-house of useful knowledge.

HÆMOPTYSIS, HÆMATÈSIS AND MENORRHAGIA.

By W. F. BARR, M. D., Abingdon, Virginia.

CASE I.—Mr. W., age 39, of tolerably good constitution, habits good, one leg amputated, was attacked with hæmoptysis. I prescribed opium, ipecac and acetate of lead in usual doses. Mustard plasters to anterior and posterior portion of the chest; bowels to be opened with compound cathartic pills. Diet light and cool. Under this treatment the discharge of blood from the lungs was checked for a day or two, after which he commenced vomiting blood. I then resorted to the hypodermic administration of fluid extract of ergot. For a short time the hæmorrhage was checked, only to return again. I then prescribed opium, acetate of lead and ipecac, and occasionally tannin, gallic acid and elixir of vitrol, which had but little effect. I then returned to the hypodermic use of the fluid extract of ergot; I also applied a blister over the epigastrium. The diet to be cool or cold and light.

Despite the above treatment the hæmorrhages would return every day or two. I then determined to prescribe the Seven Springs, (Abingdon, Virginia,) Iron and Alum Mass, in small doses, every two, three or four hours. I gave a dose about the size of a compound cathartic pill. The hæmorrhage was soon checked, and has remained checked for about twelve months, but I kept the patient on the use of the remedy for some time.

CASE II.—Mrs. W., age 30, of good, healthy constitution, accustomed to hard work as a housekeeper, was attacked with menorrhagia. I prescribed for her opium, acetate of lead and ipecac; tannin, gallic acid, alum and nutmeg, and elixir of vitrol. But the discharge still continued. I then prescribed for her Seven Springs Iron and Alum Mass, in pills the size of compound cathartic pills every two, three or four hours. The discharge ceased and I discontinued the use of the medicine. The lady, however, fearing a return of the attack, occasionally takes a pill several days at a time.

I have found the Seven Springs Iron and Alum Mass an excellent remedy in hæmorrhages, although in *large* doses it acts as an astringent. This is no more paradoxical than to assert that ipecac in *large* doses will produce emesis, and in *small* doses will check

vomiting; and that rhubarb in large doses will purge, and in small doses check purging. Calomel in full doses produce a cathartic effect, and in small doses it checks diarrhœa.—*Gaillard's Medical Journal*, September, 1880.

AMERICAN MEDICAL ASSOCIATION.

During the session of the American Medical Association in 1881, a daily edition of the *Virginia Medical Monthly* will be issued, giving full reports of the Proceedings of the General Sessions and of the several Sections, as well as the Proceedings of other Associations that convene at the same time and place—such as the Association of Medical Colleges, etc. This daily edition will be printed with large face type, in double columns, on quarto pages; and the number of pages will be limited only by the amount of material to be published.

The four daily issues (Wednesday, Thursday, Friday and Saturday) will be mailed to any address in the United States on receipt of Forty Cents, or Ten Cents a copy; to any address in Europe for Fifty Cents.

Orders, *with the cash*, should come in advance of the session, as otherwise it is impossible to decide what number of copies to print daily.

Snowden's Binaural Stethoscope.—This instrument is composed of a Hard Wood Bell, with a Soft Rubber Cup; two Flexible Rubber Tubes, attached to the upper portion of the bell by two Perforated Nipples. Two Ear Pieces of hard wood covered with soft rubber pads, the whole completed by a Wire Spring, so arranged as to retain the Ear Pieces firmly in position when in use. The advantages claimed for this instrument are its simplicity, together with the perfection and accuracy of its acoustics. Manufactured by Wm. Snowden, No. 7 South 11th Street, Philadelphia.

INDEX MEDICUS.

We give room for the following appeal to the medical profession, because we believe that in the success of this Journal all doctors interested in the higher education of their profession, are concerned :

Although the *Index Medicus* during its second year, has not been so great a loss financially as in its first, its actual expenses are not yet fully covered by subscription, the mass of material and the labor involved making it a far more costly publication than any similar periodical issue. The value of the work has, however, been so thoroughly recognized by those who have practically tested it, that a number of American subscribers have volunteered, in addition to their subscription, to contribute to a guarantee fund for the purpose of securing the publisher against further loss and, at the same time, to give the medical profession another opportunity to place the publication upon a self-supporting basis. Thus it has been decided to give it another year's trial and it is hoped that the examples set by an appreciative and generous minority will not prove fruitless. Only two hundred more subscriptions are required to permanently establish a publication which is of incalculable benefit to the whole medical world. Even where individual subscriptions cannot be afforded, some personal influence among the medical societies and libraries, a few words of earnest commendation to medical friends or through the medical press would accomplish the desired end.

It is almost unnecessary to say that the suspension of the *Index* would prove an irreparable loss to the entire profession. It is doubtful whether the publication could ever be revived under similar favorable conditions, viz. :

The vast material and admirable system at the National Medical Library in Washington ;

The capacity of the editors, equalled only by their personal sacrifice and devotion to their laborious task ;

A publisher, who, after all his discouragement and loss, again offers his services without expecting any remuneration until the enterprise is established.

It would be presumptuous on the part of the publisher to dwell

on the merits of the work itself when the most prominent men of the profession have given it their hearty support and unqualified commendation. But he should be permitted, on this very ground, to ask every one interested in the promotion of medical science and literature to aid the undertaking either in the way of individual subscription or personal influence.

The *Index Medicus* is a Monthly Classified Record of the Current Medical Literature of the World, compiled under the supervision of Dr. John S. Billings, Surgeon U. S. A., and Dr. Robert Fletcher, M. R. C. S., Eng. It records the titles of all new publications in Medicine, Surgery, and the collateral branches, received during the preceding month. These are classed under subject-headings, and followed by the titles of valuable original articles upon the same subject, found, during the like period, in medical journals and transactions of medical societies. The periodicals thus indexed comprise all current medical journals and transactions of value, so far as they can be obtained.

The *Index Medicus* is published monthly, and supplements all the leading medical journals (American and foreign) as a current guide and general index to all.

Subscription price per annum, postage prepaid, for United States and Canada, \$6. *Sample copies sent free on application.* The addresses of probable subscribers are desired from the friends of the enterprise.

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FREE QUININE.

We have been favored with the Annual Review of the Drug Trade of New York for the year 1880, by D. C. Robbins, Esq.

It is shown in the review of the importations and value of cinchona barks for 1880, that they were of inferior quality.

It is remarkable also that the price of quinine to the consumer has increased since the duty on it has been removed. We believed at the time the American Medical Association was so zealous in bringing about the abolition of import duty at Atlanta, that it was a hasty and ill-advised step, and we voted against it.

As the matter now stands Congress can do no less than remedy the mistake by removing the tax and duty on material concerned in the manufacture of quinine.

WASHINGTON TRAINING SCHOOL FOR NURSES.

This is an incorporated society, chartered in Washington in 1877, for the purpose of establishing and maintaining a school for the proper training of nurses.

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The catalogue (for which we are indebted to our friend Dr. J. M. Toner who is the President of the Association) contains over seventeen hundred exhibits, not enumerating the contents of cabinets.

We wish for the philanthropic projectors of this enterprise abundant success.

Messrs. Sharp & Dohme have added to their list in our advertising columns *Dialyzed Iron*. Their soluble sugar coated pills, and all of their pharmacals give entire satisfaction and their fair and generous dealing have given this house an unprecedented standing in the South.

DR. ROBERTS BARTHOLOW'S CARTWRIGHT LECTURES
ON THE ANTAGONISM BETWEEN MEDICINES, AND
BETWEEN REMEDIES AND DISEASES.

[Concluded from page 109.]

Morphia and Chloroform. * * * When morphia is injected subcutaneously, before the inhalation of the anæsthetic has begun, the irritability of the bronchial mucous membrane is so far diminished as to permit the inhalation to proceed quietly, the stage of excitement is prevented, and consequently the danger of asphyxia under these circumstances; the nausea and vomiting is also obviated, and the stage of narcosis prolonged without the need of further inhalation.

* * There can be no doubt, from the experience thus far accumulated, that morphia, by the method of Bernard, (injection of morphia a few minutes before anæsthesia is begun) greatly facilitates the induction of anæsthesia and lessens its dangers. I have maintained that for this purpose the combination of morphia and atropia should be preferred to morphia alone, because the power of atropia to stimulate both heart and lungs.

Strychnia as a Stimulant of the Respiratory Function.—We find that strychnia stands next to atropia as a stimulant to the respiratory function. Through the heightened reflex activity of the spinal cord and respiratory centres in the medulla, strychnia causes death by spasm of the respiratory muscles and asphyxia. It must therefore antagonize those agents which like aconite, cause death by paralysis of the respiratory muscles. Dr. Fothergill found that a lethal dose of aconitine was entirely overcome by a quantity of strychnia twice as great as the lethal.

An opposition of actions has been determined between *strychnia* and *nitrite of amyl*. Dr. Gray, of Glasgow, was able to introduce half a grain of strychnia (one-fourth grain a fatal dose) and ten drops of nitrite of amyl simultaneously, by subcutaneous injection without any marked disturbance following.

Phytolacca decandra, an interesting cardiac poison, in regard to which but little is known. It is a spinal paralyzer. Its power to arrest the heart is due to a paralyzing action on the motor ganglia, but it also affects the cardiac muscle. * * * I have found that atropia antagonizes these effects completely.

Dr. Bartholow is still engaged on experiments with *viscum album* (does he not mean *Phoradendron flavescens*?) the mistletoe. It is a cardiac tonic, and exacts vascular tension. The cardiac and respiratory depressants are its antagonists, especially such as aconite and veratrum.

THE ANTAGONISM BETWEEN REMEDIES AND DISEASES.

Some diseases are cured by contraries, was the aphorism of Hippocrates, but, he was also wise enough to add, some are cured by similars. It was obvious enough, even at that remote time, that no single law or dogma could include all the varied conditions of disease. The doctrine or law of antagonisms is necessarily applicable only to the state of physiological pathology—if I may be permitted such a phrase—and not to structural pathology, unless remediable by physiological processes. For example, the pathological state induced by fluxionary hyperæmia may be removed by agencies acting on vessels in the opposite way. A cachexia or diathesis, as the cancerous or tubercular, sclerosis of organs, etc., cannot be affected by opposed or similar remedies, yet some important symptom, occasioned thereby, may be acted on, as, for instance, fever, which may be subdued and its ill effects prevented by the proper use of some antagonist to the fever process.

It will be best to treat the antagonism which may exist between a remedy and disease, or between the actions of a remedy and the symptoms of a disease, by beginning with the first historical example of the treatment of a symptom of a diseased state by its physiological antagonist—the treatment of paralysis by strychnia.

Fouquier and Magendie recognizing the opposition of actions between the new poison and paralysis, proposed to prescribe it when suitable cases occurred, but Fouquier had the good fortune to meet with suitable cases before the discoverer.

Strychnia exalts the reflex functions of the spinal cord, and is, therefore, properly the antagonist of those conditions of disease in which this function is weakened. Strychnia is a powerful stimulant of the respiratory function, and caused death by asphyxia—by so stimulating the muscles of respiration that they become tetanically contracted, and is, therefore, the antagonists of those symptoms indicating respiratory depression. Diphtheritic paralysis is an excellent illustration and type of paralysis to which the action of strychnia is opposed. It is largely a functional paralysis. No one will dispute, I think, that strychnia is the most important remedy for this disease, and that improvement promptly follows on its administration. Furthermore, it is obvious that strychnia will produce better results, the more it is concerned with sound tissue. Hence, measures to improve the nutrition of the body will increase the utility of strychnia.

The so-called reflex paralyses are clearly antagonized by strychnia, and they are especially benefited by its administration. That strychnia produces rather a hyperæmic state of the cord and motor centres generally, while it also stimulates them to greater activity, can hardly be denied.

SPASM AND THE PARALYZERS.

The relation in which strychnia stands to paralysis is comparable to that of the paralyzing agents to spasms and cramp. Woorara, which is the only remedy which has apparently exerted a curative influence on hydrophobia, destroys the irritability of the end organs of the nerves in the muscles (while leaving the muscles themselves intact), depresses and suspends the reflex functions of the spinal cord, and paralyzes respiration. Hydrophobia gives rise to symptoms in opposition to these; but, unfortunately for the efficacy of woorara in its treatment, the drug varies greatly in composition, while in hydrophobia a peculiar virus is present which does not apparently diffuse out of the throat, but continues in action until death is produced from exhaustion, if not from the spinal effects of the poison. This fact, however, that two well-authenticated cases of hydrophobia have recovered during the administration of woorara affords some ground for hope that, with a more uniform and stable preparation of the remedy, or possibly by reason of the discovery of some new agent which acts in a similar manner, better results may hereafter be obtained in the treatment of hydrophobia.

No similitude in the action of a remedy and the symptoms of a disease can be greater than exists in the case of strychnia and tetanus, a similitude which extends even to their behavior under the influence of opposing remedies. If tetanus were cured by strychnia, it would afford an excellent illustration of the doctrine of similars; but, as it does not, it serves as a striking example of fallacies of this ancient doctrine. At least six remedies have been used with success in tetanus, viz.: chloroform by inhalation, chloral, tobacco, or its alkaloid, nicotine, bromide of potassium, physostigma, and gelsemium. Although many of them differ in regard to other points of action, they all agree in the power to diminish or suspend the reflex functions of the spinal cord, and act in opposition, therefore, to this distinctive symptom—an exaggerated reflex sensibility. Hence, in poisoning by strychnia, also, the same group of remedies are indicated.

In convulsions of an epileptiform type some agents that have a similarity of action, and some that act in an opposite manner, are employed. Picrotoxine may be regarded as a good representative of the former, and bromide of potassium of the latter. The first class stimulate the spasm-centre, but as inhibition results when two impressions coming from different pains are made simultaneously on the spinal cord, so here the normal equilibrium is the result when the two impressions produced by the disease and by the remedy, act on the spasm-centre at the same time. As the action of the picrotoxine tends to produce cerebral hyperæmia, it is obviously indicated in these states characterized by anæmia and depression, while bromide of potassium, on the other hand, is most efficient when the patient is plethoric, and the intracra-

nial circulation too active. During the administration of the bromides in epilepsy, the conditions of the faucial reflex affords an indication of the state of the spasm-centre, Voisin having shown that when no movement is caused by touching the base of the tongue, the pillars of the fauces, and the walls of the pharynx, the effect of the bromide is sufficient. A capital illustration of the antagonism between remedies and the symptoms of disease is afforded in the administration of nitrite of amyl for the purpose of aborting epileptic convulsions. No sooner is a whiff of its vapor inhaled than the arterioles become dilated, a light flush takes the place of the deathly pallor which characterizes the inauguration of the paroxysms, the stage of tetanic rigidity does not come on, and, in short, the seizure which was imminent fails to develop.

The principle of antagonism applies equally to the treatment of chorea, and the most successful treatment is that (whatever may be the measures adopted) which has for its objects the maintenance of a quiescent state of the motor centres and the prevention of those irregular discharges of nervous force which constitute the physiognomy of the malady. In certain neuroses of the respiratory and circulatory organs the phenomena of antagonism are exhibited in perfection, and among those characterized by spasm or cramp, with which we are at present concerned, may be mentioned paroxysmal cough, cough by habit, hiccough, whooping-cough, spasmodic asthma, and angina pectoris, which can only be effectually treated by those remedies which oppose the exaggerated reflex excitability. Taking laryngismus stridulus as an example, we find that an irritation of the sensory filaments of the pneumogastric nerve in the mucous membrane, transmitted to the nucleus, is reflected over the motor branches, and the muscles are thrown into cramp—the result being the resounding cough. In order to prevent this reflex act, such agents as chloral, bromide of potassium, and nauseants, which promptly relieve the spasm, are resorted to, and with entire success. Hiccough or singultus, in which a recurring spasm of the diaphragm is supposed to be the condition, affords a good illustration of both modes of antagonism—by similarity and by opposition. If, as I have already mentioned, a strong and rapidly interrupted faradic current be passed at the moment the spasm is about to take place, it is completely aborted, because the powerful irritation of the peripheral fibres induces inhibition. The remedies acting by opposition, on the other hand, are those which diminish or suspend reflex action, such as the anæsthetics, morphia, the bromides, chloral, and nitrite of amyl. To Dr. Lauder Brunton we are indebted for the successful use of amyl nitrite in angina pectoris. Ascertaining that in this dangerous condition there was a sudden and powerful contraction of the arterioles, manifested in the pallor of the surface, small, strong pulse, labored action of the heart, etc., he proposed the inhalation of this agent to overcome the contracted state of the vaso-motor fibres.

PAIN AND THE ANODYNES.

The same principle of antagonisms holds good in the treatment of pain. Several elements enter into the composition of the sensation which we call pain—the peripheral irritation, the transmission of the impression to the centre, and its realization by consciousness. Hence, pain may be relieved either by interrupting its transmission to the centres of conscious impressions or by suspending the functions of these centres. For example, aconite and gelsemium relieve pain in the former manner, and the anæsthetics in the latter. The anæsthetics, when applied locally, however, have an effect similar to that of aconite, and are therefore antagonistic to both peripheral and centric neuralgia. When a few minims of chloroform are injected into the neighborhood of a nerve-trunk, the peripheral expansion of the nerve is put into an anæsthetic and analgesic condition; and since I brought forward this method of treating sciatica, cervico-brachial and intercostal neuralgia, coccydynia, and other neuralgias of nerves in accessible situations, my experience with it has been extremely satisfactory. The needle must be inserted deeply, since merely to inject chloroform under the skin, like morphia, is perfectly useless in such neuralgias, unless the nerve-trunk is in the immediate vicinity. No danger attends this expedient, and inflammatory indurations and abscesses very rarely result from it. The most powerful means for relief of pain which is now in our possession—the subcutaneous injection of morphia and atropia together—is an illustration of the advantages derived from the study of physiological antagonism. By this combination the anodyne qualities of the two agents are enhanced, rather than diminished, while the disadvantages of each are in a great measure obviated. The combined use of morphia and atropia is also, as has already been shown, the best preventive of the tendency of anæsthetics like chloroform and ether to produce fatal paralysis of the heart or lungs; while the prescription of atropia simultaneous with chloral to a great extent averts the dangers that sometimes attend the use of that agent.

MENTAL STATES AND THEIR ANTAGONISTS.

The antagonism of insomnia to sleep producing medicinal agents is conspicuously demonstrated in the action of chloral. Acute delirious mania, and acute mania, when due to physiologico-pathological states, and not dependent on unchangeable structural lesions, are antagonized by the same agent, and often speedily cured by its timely exhibition. High excitement, with illusions and hallucinations, and great motor activity, are antagonized by gelsemium, duboisia, hyoscinia, conium, and other remedies acting similarly. Melancholia, with torpid movements, and suicidal notions, is antagonized by morphia. Acute cerebral congestion of the active form, is opposed by such arterial sedatives as

aconite, veratrum, and bromide potassium; and acute congestion, of the passive form, by digitalis, ergot, &c. Anæmia of the brain is removed by strychnia, brucia, atropia, quinia and other excitants.

CARDIAC REMEDIES AND DISEASES.

Is the action of the heart excessive from diminution in the energy of the inhibition? Exophthalmic goitre is an instance of it and as treated it is usually curable, and the remedies are galvanism, digitalis and ergot, which increase the inhibition and the vascular tension, substituting a slow and orderly movement for wild disorder of the disease. Is the heart acting too slowly from excess in the inhibition? The excess of inhibition is overcome by such an agent as aconite, which depresses the function of the inhibiting nerves. Is the heart acting too rapidly from excess of energy descending through the accelerator nerves? The paralysis of the accelerator apparatus or of the motor ganglia is overcome by the stimulants of those organs, of which atropia is the best representative.

Is the heart acting feebly from a paresis or weakness of the accelerator apparatus? Atropia stimulates this apparatus and antagonizes the conditions which result from it. The most important antagonist to states of depression is digitalis, provided certain conditions are observed. The practical deductions from observations stated are, that digitalis must be given in moderate doses, and not too rapidly, owing to the prolongation of its effects. In the condition of fatty degeneration its use is more than doubtful, owing to the fact that it decidedly increases the arterial tension and thus imposes additional work on the heart. Is the heart acting feebly from weakness of its motor ganglia? Digitalis opposes the condition when used in proper quantities. Is the heart acting too violently and irregularly, because of too frequent discharges of force? Bromide of potassium is required.

RESPIRATION REMEDIES AND DISEASES.

Strychnia has already been pointed out as a respiratory stimulant. The use of strychnia in chronic bronchitis and bronchorrhœa is attested by an immense experience. Atropia is more generally useful in this respect. It is much employed in certain neuroses of the lungs, but its chief utility consists in its power to increase respiration when depressed from a variety of causes.

Intestinal Remedies and Diseases.—A serous diarrhœa is promptly relieved by belladonna. Opium suspends intestinal movements and stops secretion, it therefore relieves conditions of an opposed kind, namely, diarrhœa and dysentery; constipation due to torpor or paresis of the muscular layer of the bowel is often promptly cured by the faradaic current. When the muscular layer is parietic, and secretion is deficient, the relief afforded by opposing agents is very remarkable,

and these agents are nux vomica, belladonna, and physostigma; and, if given in combination they will oppose and remove it.

Remedies Acting on the Skin.—In night-sweats of consumption, atropia, duboisia, and hyoseyamia dry the skin.

Local sweating as of one side of the head or elsewhere, is usually arrested by the local application of atropia or belladonna. The milk gland being a sweat gland modified and enlarged for this special office, is acted on by antagonists in a manner similar to the skin. Pilocarpine increases the flow of milk; atropia diminishes and arrests it.

Remedies Acting on the Kidneys and Bladder.—The functions of the skin being to a certain extent vicarious, the activity of one necessitates a diminution in the activity of the other. Those remedies acting on the skin antagonize the stimulants of the renal secretion. Remedies such as digitalis and squill, which increase the pressure in the renal vessels, and also directly stimulate the secretion, are the antagonists. There is a form of vesical irritability in women, which is relieved by the use of tincture of cantharides. There is excessive intolerance of urine in this form, with any alteration of the fluid. Tincture of cantharides induces a similar irritability. Relief is effected by the inhibitive result of two impressions on the genito-spinal centre. Two impressions coming from different points, and of equal volume neutralize each other.

The treatment of nocturnal incontinence of urine must be founded in the physiological pathology of the disease. If dependent upon weakness of the sphincter, belladonna and ergot are proper. If dependent upon intolerance of the mucous membrane, a state often connected with abnormal acidity of the urine, bromide of potassium and alkalies. In still other cases, the muscular layer of the bladder is in an irritable state, and energetic contraction ensues whenever the urine accumulates sufficiently, such remedies as gelsemium, conium, chloral, are most appropriate.

Treatment of Inflammation.—Remedies which prove effective at the onset of an inflammation must act not only on the contractility of the vessels, but also on the corpuscular elements of the blood, for immediately on the occurrence of stasis the migration of the white corpuscles and the diapedesis of the red begin. There are two remedies of special value at this juncture, and three others of secondary utility. Quinia and morphia, administered together in sufficient quantity at the right moment will often suppress a beginning inflammation. * * * * A statement of the physiological action of these agents will indicate the nature of the opposition. Quinia and morphia, if administered together in quantity sufficient to produce their full physiological effects, will raise the tonus of the arterioles, check the migration of the white corpuscles and the outward diffusion of the albumen, fibrine, and salts,

and arrests amœbiform movements and the subsequent multiplication of the white corpuscles outside the vessels. * * * Quinia has a large range of action. Modern researches have cleared up all that is uncertain in regard to its physiological effects, and have explained the therapeutic uses formerly known only through empirical observation. * * * We owe to Prof. Binz, of Bonn, the demonstration of the activity of quinia as a poison to protoplasm and the minute forms of life. It is to this property that its power to arrest the movements and other acts of the white corpuscle is due. The possession of this property may also serve the curative power of quinia in malarial fever, if the recent discovery of the bacillus malarie, by Klebs and Tomassi-Crudeli is confirmed by further investigations. Binz and others have shown that quinia lessens the oxidizing function of the blood, and Rauke and others, that it reduces one-half the excretion of urea and uric acid. It follows from these considerations that quinia antagonizes the increased heat production, the migration and subsequent multiplication of the white cells, and the proliferation of the protoplasm of the tissues, while morphia, by raising the vascular tonus, and lowering the work of the heart, tends to remove congestion.

The other agents, having less important relations to the antagonism of the inflammatory process, are digitalis, aconite, and veratrum viride. While these agree in the power to lower the circulation, they differ in the mode of accomplishing this object. Digitalis slows the heart, but energizes its movements and raises the arterial tension. It also depresses the temperature, but any effect it has over the movements and changes of the protoplasm is secondary to its effect on the tension of the vessels. The amœbiform movements of the white corpuscles are, of course, favored by a relaxed state, of the vessel walls, and hindered by a higher tension. The influence of digitalis on temperature is very evident, but it ranks far below quinia as an antipyretic. Hence it is rather as an aid to quinia that digitalis is used than as a chief antipyretic.

The antagonists to the second stage of inflammation must, necessarily, have the power to prevent or remove the products of inflammation. The remedies antagonizing these new conditions are quinia, chloral, and the alkalies. The utility of quinia ceases, when the exudate has actually formed. Chloral is especially adapted to this stage of the inflammation; it diminishes the fever heat, dissolves exudations, quiets restlessness and delirium. The experimental evidence of this power to dissolve exudates is conclusive, and the clinical experience, although limited and difficult to define, seems to favor the belief in its existence. Chloral unquestionably exerts a favorable influence if it does not dissolve an exudation. An important contra-indication should not be overlooked—that is, the paralyzing effect of chloral on a weak heart. When exhibited for the proposed treatment the dose should be small, and not administered more frequently than every two hours. The tendency to cardiac depression can be overcome by the joint administration of atropia, which does not lessen the utility of the remedy for the purpose for which it is intended.

That the alkalies, especially the potash, ammonia, and lithia salts, by increasing the alkalinity of the blood, check exudations, and cause their solution, more or less effectively, after they have formed, seems a perfectly well-established fact in clinical experience. * * Alkalies may be advantageously given in alternation with chloral. It must be remembered that the more alkaline the blood, the more active the chloral. When the exudation is undergoing solution preparatory to absorption and extrusion, digitalis and quinia again come into use.

In the treatment of fever the most important agents are quinia, salicylic acid, resorcin, chloral, digitalis, aconite, and veratrum viride. Besides these all the remedies which depress the functions of respiration and circulation more or less diminish heat production. Unquestionably quinia holds the first position as an antipyretic.

Salicylic acid has many analogies with quinia. Like quinia it does not affect the normal temperature to any considerable extent, but has a powerful effect on the temperature of fever.

A new remedy, resorcin, is likely to become useful. Originally resorcin is obtained from a resin, and is a phenol. The antipyretic effect on febrile temperature is very decided, and hence resorcin may come into general use as an antipyretic, the more especially as it does not produce irritation of the parts with which it comes in contact.

Some resemblance may be admitted to exist in the constitutional effects of both agents. They manifest a tendency to attack the same tissues, and produce lesions of a parallel, although not of the same kind.

Reviewing then, the great subjects or the inflammations, fevers, and specific diathetic maladies, it is perfectly obvious that the only certain method of management is the use of the antagonist remedies.

* * * * *

The right use of remedies in accordance with the principles or the law of antagonism requires an accurate knowledge of physiological therapeutics. To this study, as a distinguished French therapist, Belier, has lately said, the medical profession should give its unremitting attention. Is it the case? Is there that interest in the study of modern therapeutics which we find exhibited in other departments of medical science and art? I fear not. There is still present the notion that observation and experience should be the sole foundations for the construction of a therapeutical science. The old principle, that a remedy which has cured a disease, must cure all analogous cases, is still the guiding principle with many of the practitioners of our day. Besides the numberless fallacies, the product of individual experience, the observation of analogies is in every way misleading. The advocates of this empirical method are fond of asserting that the observations on animals are not to be applied with any certainty to man; that rabbits eat belladonna leaves with impunity, and that pigs can hardly be poisoned by opium; but physiological research demonstrates that by another mode of administration these animals are affected in the same way as man. Until Magendie studied strychnia, it was merely the mysterious upas poison; until Bernard examined woorara, muscular irritability was the dream of Haller; chloral contained a mere chemical curiosity, until the genius of Liebreich demonstrated by one effort its wonderful hypnotic qualities. The results achieved in that way have a remarkable permanence. While the notions of the actions of drugs engendered by experience and observation are constantly changing, the deductions of experiments have the same value as the same methods in other experimental sciences. To this end we should direct our best efforts, and rest satisfied with no less certainty than that which belongs to the exact sciences, until we have attained to such a degree of perfection that, the diseases being given, the remedy follows.

 OBITUARY.

WILLIAM A. B. NORCOM, M. D.

The sad news of Dr. Norcom's death reaches us too late to prepare a notice that would do justice to the eminent services which our lamented friends has rendered the medical profession of his native State, but will receive attention in our next.

ISAAC WAYNE HUGHES, M. D.

In Newbern, N. C., on the 21st day of February, 1881, Dr. Isaac W. Hughes died in the 78th year of his age. He was born in Montgomery County, Pennsylvania on the 14th day of February, 1804; graduated in March, 1825; was a student of the celebrated Dr. Nathaniel Chapman, of Philadelphia. During his medical course at the University of Pennsylvania he spent some time in the the Pennsylvania Hospital. He located in Newbern, May, 1825. He was noted for his indomitable energy and devotion to his profession which he pursued with marked assiduity and success until his last illness. He was a friend in need and in deed, possessing those generous impulses of the heart which ennoble and elevate man above the ordinary sphere of mankind, ever ready with his counsel and means to contribute to the relief of the distressed. A man of true heartfelt benevolence, honest and upright. He has finished his course having performed well his part in the drama of life, has passed the arena of professional duty leaving behind a good name, honored, respected and beloved.

GEORGE ALEXANDER OTIS, M. D.

[Communicated from Surgeon General's Office.]

It is with profound regret and a sense of loss, not only to his corps, but to the medical profession, that the death of George Alexander Otis, Surgeon and Brevet Lieutenant Colonel, U. S. Army, is announced to the Medical Corps of the Army.

Born at Boston, Mass., Nov. 12th, 1830, he graduated with the degrees of A. B., and A. M. from Princeton College; entered the Medical Department of the University of Pennsylvania, and received his degree of M. D. from that Institution in 1850; visited Europe, and prosecuted his studies in London and Paris, and returning to this country he established himself at Springfield, Mass.; appointed Surgeon 27th Massachusetts volunteers, September, 1861, he held this position until appointed Surgeon, U. S. Volunteers, August 30, 1864. After the close of the war he entered the Medical Corps, U. S. Army, as Assistant Surgeon, February 28, 1866; became Captain and Assistant Surgeon, July 28, 1866; Major and Surgeon, March 17, 1880, having received the four brevets of Lieutenant Colonel of Volunteers, Captain, Major and Lieutenant Colonel, U. S. Army, for meritorious services during the war. While

Surgeon of the 27th Massachusetts Volunteers he served in Virginia, North and South Carolina, and was on special duty in charge of the Hospital Steamer "Cosmopolitan" in the Department of the South. Assigned to duty in this Office July 22, 1864, he was Curator of the Army Medical Museum, and in charge of the Division of Surgical Records until his death.

He was editor of the *Richmond Medical Journal* for three years, member of the leading medical societies of America and corresponding member of various similar societies in Europe, and a contributor to prominent medical journals. Surgeon Otis, with his personal observations of the surgical collections abroad, brought indefatigable industry and untiring energy to the development of the surgical and anatomical collections of the Army Medical Museum, which he has made the most valuable of their kind in the world. The compilation of the Surgical Volumes of the Medical and Surgical History of the War has placed Surgeon Otis confessedly among the most prominent contributors to surgical history.

While on duty in this Office, Surgeon Otis wrote for publication no less than ten reports on subjects connected with Military Surgery, &c. ; among which are his most valuable and exhaustive reports on "Excision of the head of the femur for gunshot injury," and on "Amputation of the hip joint in military surgery." Of great culture, retentive memory, and with a remarkable facility of expression, he was, as a compiler and writer, conscientious in his analyses, giving his deductions from the facts before him with modesty, but decision. With such a record it is needless to speak of his zeal, his ambition or his devotion to his profession and especially to the reputation of the Corps of which he was so bright an ornament. While devoting himself to the preparation of the Third and last Surgical Volume (now more than half completed) of the Medical and Surgical History of the War, he died in Washington, February 23, 1881. His untimely death will be deeply deplored, not only by the Medical Corps of the Army, but by the whole medical profession at home and abroad.

JOS. K. BARNES, Surgeon General.

Dr. S. B. Jones, of Wadesborough, calls our attention to the discrepancy in the graduation of hypodermic syringes. So wide is the difference, he finds that "10 minims of one syringe will fill another syringe to the 20 minim mark." This makes a great error when physicians use Magendie's solution. "He now measures his solution before filling the syringe.

Bellevue College has found after a short experiment that the three term course worked to the disadvantage of the prosperity of the school, and the old plan has been readopted.

Circulars from the College to be issued in April will explain the changes filling the syringe.

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ORIGINAL COMMUNICATIONS.

TREATMENT OF TYPHOID FEVER—GASTRIC ULCER.

A Clinical Lecture Delivered at the Hospital of the University of
Pennsylvania, May 15, 1880.

By WILLIAM PAPPER, M. D.

Professor of Clinical Medicine in the University of Pennsylvania.

Reported by WM. H. MORRISON, M. D., for the NORTH CARO-
LINA MEDICAL JOURNAL.

TREATMENT OF TYPHOID FEVER.

GENTLEMEN :—I have again brought this typhoid fever patient before you to show you the further progress of the case. He has been here since the 3d of May, twelve days ago. He came in on about the fourth day of his disease. This is, therefore, about the sixteenth. I showed him to you about ten days ago, at which time his temperature was still high. I pointed out to you the characteristic features of the disease, discussing them at great length. I also told you what the treatment would be.

Since that time the progress of the symptoms has been as follows: The nervous symptoms never became worse. There has been a slow return to a brighter condition and for several days the intelligence has been nearly normal. The flush on his face still remains though less marked than at first. I commented upon the absence of epistaxis. There has been none at all. Bleeding of the nose is a frequent sign in typhoid fever, yet as you well know there are many severe cases which run their whole course without epistaxis occurring. On the other hand, there are other forms of fever in which it may occur. It may occur in malarial fever, typhus, in relapsing fever, and, in fact, it may occur in any of the continued fevers. All we can say that it is much more common in typhoid fever than in one of the others.

I spoke also of the comparative slight degree of bronchial irritation; only an occasional bronchial cough and a few scattered râles throughout the chest. The bronchial element in typhoid fever varies greatly. In some cases it is very severe and often a patient by the end of the first week will present marked evidence of bronchial irritation requiring our most careful treatment. Sometimes the condition passes into one of actual pneumonia, owing to the excessive irritation of the bronchial membrane. We may call it a localization of the disease on this part. On the other hand there may be no evidence of an irritation. This is comparatively rare.

In this case the digestive symptoms were marked, and they are the most constantly marked of any of the symptoms of typhoid fever. I pointed out to you carefully the condition of the tongue. It now has a whitish fur over the dorsum; the tip is less red. It is still a little marked by the teeth but is contracting and is disposed to be dryish.

The distension of the belly never became marked and now it has entirely or almost entirely subsided so that the belly may be called flat. The bowels immediately became quiet when the patient was put to bed, the diet carefully regulated, and he was put upon the simple treatment I mentioned. There has been no loose stool since then. Four days ago we brought away some ochre colored *feces* by an enema. The bowels were allowed to again go four days without being opened, we again employed an enema and brought away *feces* of the same character but more consistent.

The eruption has been slight but unmistakable. There have been a few spots coming out successively at intervals of a few days. The amount of eruption in typhoid fever varies greatly. In some cases and those may be mild, the body may be covered with the characteristic rose colored lenticular spots of typhoid fever; while in other cases of a very severe grade, you may not have more than five or six spots from the beginning to the end of the attack. I have seen cases of typhoid fever perfectly characteristic running their typical course without being able to find a single spot of eruption at any period of the disease. This is rare yet it does occur and so like every other symptom of this disease and what is true here is true of every other constitutional disease, it may present great variations in its degree of development.

The amount of eruption does not correspond to the severity of the case. You will find in the different continued fevers a great difference in this respect. In typhoid the eruption does correspond to the gravity of the case, but it does not correspond at all in scarlet fever; it does not correspond at all in measles. We may have a vigorous finely developed eruption in mild cases. In small pox the gravity of the case is proportional to the amount of eruption. In typhoid fever the amount of eruption has no reference whatever to the severity of the case, or at least no constant relation. I think on the whole, that marked and severe cases are apt to have a pretty well developed eruption.

The appetite was entirely in abeyance. There was complete anorexia for several days. Within the past few days his appetite has become better and he has been clamorous for some addition to his diet.

The fever. Now here is a case where the onset and the whole progress of the case render the diagnosis certain. It is a case, however, which has aborted, as far as its fever is concerned. You will be told in most text books that typhoid runs its course in about twenty-one days and has a certain range of temperature; that, during the first week the temperature increases with a morning fall and an evening rise; during the second week the temperature remains at about the highest level which it had reached during the first week, still preserving the morning remission and the evening exacerbations during; the third week, the morning fall is greater and the

fever diminishes, and during the fourth week, the temperature returns to normal. In the majority of cases, this is the course but I beg you to remember that in many cases, this is not the course.

Wunderlich, from a study of a great many cases, laid down certain general rules in regard to the temperature in typhoid fever. These have been adopted by some as arbitrary rules and if a case does not correspond exactly to these rules, if temperature does not reach a certain degree on a certain day it is not typhoid fever. It is absurd to lay down any fixed rules in regard to such things because nature will not follow your rules. As a matter of fact, I find in typhoid fever the greatest variation in the course of the temperature and in nothing more than its duration. Many cases will run a typical course. Other cases will abort and abort comparatively early.

Now let us look at this case. This man came in on about the fifth day. By the close of the first week he had temperature of 104° . On the twelfth day there was a sudden drop to normal and then a rise on the evening of the twelfth day and then a rapid fall. In other words, there has been a rapid break in the temperature from a 102.5° on the eighth day down to normal on the sixteenth. With this there has been a corresponding reduction of the pulse. For the past twenty-four hours it has been 72 in the minute. Here there has been a mild case of typhoid fever, aborting at the end of the second or beginning of the third week.

Of course in a case of this kind suspicion will come up as to whether it has been a case of true typhoid fever or a simple continued fever. You will find in books on the essential fevers, a class of fevers described as simple continued fevers, the duration of which is about nine or ten days. They are not accompanied by epistaxis, eruption, diarrhoea, etc. They result from extreme over exertion, chilling of the body and the like. This class of fevers requires very careful study. The more you study them, the more you find that one case can be put into one class and another case into another class, and the number of cases of true simple continued fever diminishes. In some it is a little catarrhal fever from irritation of the bronchial mucus membrane. In others, from irritation of the intestinal canal. A good many of them are cases of abortive typhoid fever. There may be a class of cases, where there

is no local lesion and the fever runs a continued course ; there may be such a case, I say, but this is not one of them. This must unquestionably be regarded as a case of mild typhoid fever aborting at the end of the second week and terminating in a very rapid recovery.

Let me now speak of the treatment of this case. The treatment has been very simple indeed. He came here a very sick man, with a rapid pulse, a heavily coated tongue, a temperature of 104° , a slight amount of pulmonary irritation and all the other symptoms to which I called your attention. He was put absolutely at rest. We gave as food, two parts of milk and one of water. Of this he received six fluid ounces every two hours or seventy-two ounces in the twenty-four hours. In addition to this he received enough to make the quantity of fluid taken about ninety fluid ounces a day, of which forty-eight were milk. He has had no other food nor any stimulus. He has not been taking any drug to reduce the temperature. He was sponged once by mistake. The only drug he has taken has been a pill consisting of nitrate of silver, gr. one-sixth, and powdered opium, gr. one-eighth, four times a day. He has made a very rapid recovery on this extremely simple treatment.

We have in typhoid fever two distinct elements, varying much in different cases, which can never be lost sight of. These two elements are the amount of blood poisoning and the amount of intestinal lesion. The amount of blood poisoning shows itself early in the case. It determines the gravity of the case in the early stage. It is this which, to a large extent, produces the wide spread irritation, the severe nervous and pulmonary symptoms, the rapid development of fever, and great disturbance of pulse and excessive prostration seen in bad cases. It is not difficult to recognize when this element is marked.

The other element, that of intestinal irritation, makes its appearance at a very early stage of the disease. I have in my possession, bits of typhoid fever intestine from patients who have died from the fourth day on throughout the whole course of the disease. Early in the first week the follicular structure of the mucus membrane of the intestine shows serious alterations, the follicles and the glands of Peyer become congested and enlarged.

It is impossible that a patient in good health could be seized with

a severe follicular intestinal catarrh, extending, as this sometimes does, from the œsophagus to the anus, involving the glands of the throat and even of the mouth, the follicles of the trachea, the follicles of the œsophagus, the glands of the stomach and the glands throughout the whole intestinal canal, both the small and large intestine, it is difficult to imagine, I say, that a person in perfect health could be seized with such a follicular catarrh, without it producing very serious symptoms, fever, extreme prostration, loss of appetite, and symptoms of nervous irritation from reflex action. Still more, you will understand that this must produce severe symptoms when it occurs in a person weakened by a poison in the tissues and pieces of his body.

These two elements, the blood alteration and the local lesion, are the two factors which we have to consider in dealing with the patient's state and in addressing our treatment to his condition. My own belief is that in the vast majority of cases it is the intestinal lesion which is the more important of the two. I do not now discuss how this lesion occurs, whether the poison first gets into the blood and causes the lesion in its passage out, or whether it passes into the system through these lymphatic tissues. It makes no difference to us whether it is one or other of these ways. It is an important complication, a cause of many of the symptoms and calls for careful treatment.

You will see at once why certain forms of treatment are injurious. You see how injurious it would be to give harsh purgatives. If you get the case in a very early stage, the mildest laxatives may, perhaps, be used to move any of the poisonous matter which may be in the intestine. Small doses of castor oil or citrate of magnesia may be used. The bowels being in this sensitive condition respond to very small doses of laxatives. A teaspoonful of castor oil will often cause a number of stools, or four ounces of citrate of magnesia will often cause a profuse discharge. After we have once secured a movement of the bowels of the gentlest character, we do not, in the majority of cases, again need the action of a purgative throughout the course of the case. As a rule we have to check diarrhœa and we may allow the bowels to go several days without being opened because the food taken contain very little refuse matter and the bowels contains little to be expelled. When you think it neces-

sary to open the bowels the best plan is by an enema, which may consist of a little soap and water, an egg and a little turpentine. If this does not act, minute doses of a laxative may be given by the mouth and repeated until a movement is secured.

As regards the treatment in other respects. The patient must be kept perfectly quiet. He is weak and he has ulcers in his intestine. If he is allowed to move about he will increase the inflammation and the strain may burst the bowel and the patient die of peritonitis. I assure you that in order to have the patient kept at absolute rest requires the greatest attention and care upon your part. You must explain exactly what you mean, that he is not to be allowed to use any muscular effort, he is not to raise himself on his elbow to take a drink, he is not to turn himself in bed. He is to take his food through a tube, or from a cup with a bent spout. The attendant is to turn him in bed to prevent hypostatic congestion of the lungs. He is to use the urinal and bed pan.

The diet is the last point to which I shall allude to-day. I was very much surprised in reading an address delivered by a man whom I consider one of the best practical physicians of the day, Sir William Jenner, of London, whose name is inseparably connected with typhoid fever, a statement of his views on the diet of typhoid fever, with which I agree in some, but am compelled to differ in other respects. He is perfectly right in saying that the practice of giving large doses of milk to patients with fever is harmful and that in a certain proportion of cases milk will not suit fever patients, the tongue becomes more coated and the stomach more uncomfortable. The reason of this is that the casein is not broken up, but lies in the stomach producing local irritation; so that in a certain number of cases of typhoid fever, and only in a certain number, is a diet of milk well borne. I do not know that any definite rules can be laid down to guide us in this matter, but in my experience in cases where there was marked bilious coating of the tongue, so-called, a yellowish-white heavy coating, with a considerable degree of tympanitis distension, a good deal of fever, marked nervous symptoms, a pure milk diet is too strong and if milk is relied upon, it should be diluted with water. I think that we are going to find from the better grades of condensed milk, particularly Canfield's, a very important addition to the dietary of

typhoid fever. Any one who has seen the great disturbance induced in little children by taking too much milk can readily understand how much a patient with typhoid fever must suffer who has large quantities of milk poured down his unconscious throat. The condition of this patient caused me to give him milk diluted with water.

Jenner says that in a considerable number of cases bread and scraped meat may be given with advantage. I cannot say that this agrees with my experience. In the first place there is usually not intelligence enough to masticate them properly. Secondly, the saliva which is so essential for the digestion of the farinaceous matters is deficient and perverted. Again, solid food has seemed to me whenever I have given it, to act as an irritant by its presence in the stomach apart entirely from the question that much solid food leaves behind a great deal of useless residue. One half of the bulk of meat is of this useless fibrous character. The most finely bolted flour contains a certain amount of indigestible husk. For these various reasons I am inclined to think that it is wiser to avoid entirely the use of solid food and rely upon liquids, but not upon milk alone. Frequently we do better by giving milk diluted with water, or cream and water. In some cases animal broths are exceedingly valuable. In cases where there is much tendency to diarrhœa, I think beef-tea is apt to prove too irritating, particularly when it is made by any process of boiling. There are certain preparations in the market, the best of which is, probably, Valentine's beef juice, which are not open to this objection.

Another valuable class of food is solutions of the farinacea, arrow root, corn starch, etc., boiled in water, or in water with an equal part of milk. The farinacea are exceedingly valuable as a force-giving and tissue-making food. We do not understand as well as we should the advantages of this class of food.

The best diet in typhoid fever is then, I think, one composed of milk, or milk diluted. If this causes distress, of milk from which the casein has been removed, or milk whey; the farinacea prepared with milk or milk and water, and lastly the animal broths which are the least valuable, but solid food, despite the authority I have mentioned, had better be omitted.

GASTRIC ULCER.

Here is a man I wish to show to you to-day as I probably shall not have another opportunity. He was before you some time ago, and I spent considerable time in studying his case. He came to the hospital with a history of repeated hemorrhages from the stomach. Very frequent vomiting of blood and in large quantities. He vomited everything that he took into his stomach. In addition to throwing up blood he sometimes passed a little by the bowels. He had lost about thirty or forty pounds of flesh and suffered from a very severe pain in the epigastrium.

Examination failed to reveal any tumor in the epigastrium. I told you that we could not doubt the existence of ulceration of the mucous membrane of the stomach, and that the absence of tumor made it impossible to say positively whether it was simple or malignant; but looking at his age and the steadily downward course of the case, I feared that it would prove to be either carcinoma or sarcoma.

I confined him to bed and gave him hypodermic injections of morphia over the stomach, to diminish the severe pain and to keep the stomach quiet. We fed him by enemata of Valentine's beef juice and water. For four weeks he did not take any food by the mouth but lived upon the enemata and himself, for he lost weight during this time. I then gave him fermented milk, koumiss, which agreed with him perfectly. I know of no other article which is so apt to agree in such cases. He took from one to two quarts of koumiss daily. While this was going on his power of taking food gradually returned. He has not vomited once since he was put to bed. He now weighs 145 lbs. His best weight was 180 lbs. His lowest 124 lbs.

It would seem that my fears had been unfounded and that this was a case of simple ulcer. I can hardly believe it possible that a man who had gone so low in a malignant affection as this man had, having lost 53 lbs., and lost blood by repeated attacks of hæmatemesis should by any treatment be so much restored. His pain might have been relieved, his vomiting stopped, but we should not have had such a great gain of flesh.

The absence of tumor was the only anchor of hope in this case. I never saw a case in which the prognosis was, apparently, so unfavorable and hopeless as here.

The treatment by keeping him at rest, feeding by enemata, the hypodermic injections of morphia, and then milk in an uncoagulable form and the gradual return to ordinary diet in the course of a couple of months has been followed by a recovery most extraordinary.

CLINICAL SOCIETY OF MARYLAND.

THOMAS S. LATIMER, M. D., President. EUGENE F. CORDELL,
M. D., Reporting Secretary.

FACIAL PARALYSES.

At Stated Meeting held March 4th, 1881, Dr. John VanBibber presented two cases of the above affection.

The first case was of deep origin. There was secondary contraction of the affected muscles, which was of rare occurrence in this connection and rather conclusive proof of cerebral origin. The patient (white, female, adult) was not seen by Dr. V. B., until three months after she was first attacked, which was the period when most benefit was to be expected from treatment. Her condition at the first visit was most unpromising. She was entirely unable to use the right side of her mouth, or to move the lids of the right eye. There was also entire absence of faradic reaction, whilst the electric contractility was exaggerated. The tongue deviated very much from the right line, and the patient complained much of dryness of the mouth. She had been under medical treatment previously, but apparently without any effect. The symptoms have now improved very decidedly, and the power of the muscles has very nearly been restored. Faradic reaction is now very good. The treatment has consisted of the use of the faradic current and a hook and elastic band, applied from the corner of the mouth around the ear.

The second case was in a young man, who first discovered the paralysis, after exposure to a draught of air during the late sesqui-centennial, on attempting to smoke his pipe. Syphilis is excluded

from the ætiology, by the absence of any symptoms or marks of the disease, and the patient's positive denial of any such affection. The faradic reaction—at first absent—has returned to some extent, and the deformity is much lessened. At first he could only close the eye-ball by the use of the galvanic current, hence at intervals, this was resorted to, and while it was being given, the patient was made to open and close the lids thirty times. Specific disease could not cause the affection as suddenly as in this case. Allusion having been made to an enlarged pupil in the right eye. Dr. V. B. said he would exclude that from consideration, since it might have existed previously, possibly from some antecedent lesion. Notwithstanding the irregularity of attendance the patient has improved very markedly under the battery and the elastic hook.

Dr. Herbert Haslan said examination showed the dilated pupil to be due to adhesions of the iris indicating previous iritis.

Dr. F. T. Miles inquired why Dr. V. B. regarded the paralysis in the first case as of central origin.

Dr. V. Bibber replied that he did so because the tongue was affected and also the palate, and because secondary contraction is so rare. By a deep origin, he meant that it was intra-cranial.

Dr. Miles replied that every text-book teaches that the orbicularis is paralyzed only in cases of peripheral origin. If the orbicularis is paralyzed from central lesion it would imply the destruction of the nucleus of the seventh pair, which we could hardly suppose in this instance. The "contracture" may be due to the constant traction of the elastic apparatus, which is so strong as to keep the cheek pushed up towards the upper lid, the muscles gradually growing into this position. He (Dr. M.) uses a simple hair pin bent into the form of a hook, without much force. The most interesting point in the case was the effect of prolonged galvanic treatment, in a case of such long standing. We should never despair in cases of facial paralysis of benefiting our patients by the use of the galvanic current, in proof of which he cited a case whose complete cure was effected only by the persistent use of the battery for six or eight months.

HYSTERIA IN A MALE ADULT.

Dr. F. T. Miles reported the case of a young man, aged about 20, who came into the University Hospital, suffering from complete

paralysis of the right leg below the knee. The loss of power was extreme, such as is only seen in infantile paralysis. The limb was cyanosed and there was entire absence of sensation in the foot. The patellar reflex was present, while that of the tendo-achillis was lost. The age of the patient and circumscribed nature of the affection were against the supposition of a cerebral origin. Infantile paralysis was excluded by the loss of sensation in the foot by absence of degenerative reaction or wasting. According to the patient's statement, it had occurred immediately after the rolling of a cask against his leg, which became black and blue from the bruise thus inflicted. Faradic reaction was retained. Occurring in a woman he would have thought it hysterical, but could not have imagined it to occur in a man of a so singular phlegmatic temperament as this without any history of hysteria. The occurrence of hysterical coma and mutism settled the ætiology of the case. The patient is now walking about. The interesting points about the case are the limitation of the paralysis and its long duration without the slightest evidence of hysteria.

Dr. S. C. Chew saw this patient, when he had been in a state of coma for thirty-six hours. Pricking with a pin had no effect—he seemed completely insensible to pain.

BRAIN LESIONS DUE TO SYPHILIS—SPECIMEN.

Dr. A. B. Arnold exhibited a brain, obtained from a colored man, æt. 55, who was brought to the city hospital suffering from paresis and convulsive movements of the right arm. About eight months ago whilst the man was at work, his right hand was suddenly seized with spasmodic contractions, and soon after he had an apoplectic fit from which he speedily recovered. He then discovered that the affected arm was partially paralyzed. After that he had several such attacks which increased the paralysis of the arm and rendered it useless. This was the only symptom when the case was presented at the clinic. Inquiry elicited a history of syphilis, and on close inspection of the body a few suspicious cicatrices were discovered. Dr. Arnold diagnosed syphilis of the brain and ventured to locate the lesion in the vicinity of the fissure of Rolando of the left hemisphere, in accordance with the results of the well-known experiments of Ferrier. Large doses of the iodide of potassium relieved

the local spasm but not the monoplegia. The man died suddenly after having been in a state of mild delirium for several days. Section of the left hemisphere disclosed a gummatous tumor of the size of a large hazelnut imbedded in the upper portion of the ascending frontal convolution near the convexity, but not implicating the cortex. The growth extended also in a downward direction to the descending parietal convolution. Thus the lesion actually involved the parts in the upper region around the central fissure. A small, flattened gummatous deposit was also found on exposing centrum ovale of the parietal lobe of the right hemisphere.

Dr. Miles said this was one of the best localized lesions he had known of and he hoped that Dr. Arnold would preserve it in a permanent form. Such illustrations of pathological effects are better than any experiments on animals.

Dr. John Van Bibber said he desired to say a word in regard to Dr. Miles' statement, that the orbicularis muscle of the eye is very rarely affected in facial paralysis of cerebral (i. e., intra-cranial) origin. The following case was cited to show that the contrary may occur: A gentleman from Philadelphia was dining in this city. Whilst engaged in eating his soup, he found it difficult to make himself understood. He grew worse and when Dr. V. B. arrived he was incoherent. Within a half hour afterwards he had lost entirely the use of his arm and leg, and in a few hours he was in a deep coma, with stertorous breathing. Gradually he recovered sufficiently to take liquid nourishment through a tube. This patient could not open and shut his right eye, whilst the left was strabismic. Nine weeks have elapsed since the accident; his aphasia and ptosis have disappeared, but he is unable to close his right eye or to move the muscles on that side of the face.

SPECIMEN OF ANCHYLOSED VERTEBRÆ AND PELVIS.

Dr. R. Winslow presented a specimen of the vertebral column and ribs, and also the pelvis of a patient, which exhibited complete ankylosis of all their parts except the two or three upper cervical vertebrae. The anterior costo-vertebral ligaments are very distinct and have undergone ossification, as also the supra and infra-spinous ligaments in the lumbar region. The ossification was probably due to rheumatic arthritis. The specimen was obtained from a body brought to the dissecting room at the University; nothing was

known of the previous history, further than that he was a herdsman or cattle driver, who had been frozen to death at the cattle yards near the city.

Dr. S. C. Chew cited a case reported by Mr. Brodburst in Reynolds' System of Medicine, in which the whole skeleton was said to be implicated; the condition being attributed by the writer to the so-called gonorrhœal rheumatism. The atlas and axis were ankylosed together, all the vertebræ, hips, shoulders, elbows, wrists and jaw.

Dr. F. T. Miles said the specimen was very interesting, because exhibiting so well ossification of the ligamentous bands. There is scarcely any fibrous tissues in the body which may not be converted into bone, or does not represent bony tissue in the lower animals.

FATAL JAUNDICE.

Dr. S. C. Chew said that he desired to call attention to the fact that obstructive jaundice, whilst generally terminating favorably, might result fatally in a way not indicated by the symptoms that are always present, but which in exceptional cases may be absent. The following was given in illustration:

E. M., female, æt. 27, was seen first, January 4th. She stated that she had been sick several weeks. She presented symptoms of sub-acute enteritis—slight epigastric tenderness, and quite an urgent diarrhœa. There was deep icterus, the bile pigment being abundant in the urine, and there was a mild fever—102–102.5°. A diagnosis was made of obstructive jaundice, most likely due to catarrhal duodeno-enteritis. In making this diagnosis, acute yellow atrophy was excluded by its extreme rarity (the speaker had met but two cases of it in his whole experience) by the presence of intense jaundice in the case, which is not apt to be intense in acute yellow atrophy, by the absence of bile from the stools, by the percussive dulness being rather increased in extent than diminished, and by the absence of cerebral symptoms—delirium, subsultus, &c. In deciding for or against the presence of a gall stone, it was to be considered that women are more subject to this than men, in the proportion of three to two; on the other hand, the age of the patient was, to a certain degree, against such a supposition (the speaker had seen but two fatal cases of gall-stones, both being in persons under 28 years, exceptions to the rule), moreover, there was

no history whatever of any attacks of hepatic colic. This was a most important point in the history. From these considerations, was deduced a probable diagnosis of catarrhal jaundice. One week after first coming under notice, she was apparently much better; but that night she was seized with coma and convulsions, which alternated until the next day, when she died twelve hours after the commencement of the coma, and without being conscious at any time during the period. A small quantity of urine was drawn off, which was high colored, loaded with bile, and slightly albuminous. The autopsy revealed enlargement of the liver, which was deeply engorged, the gall bladder was greatly distended with bile, and the gall duct was completely occluded by a smooth oval stone about three-fourths of an inch in length and one-half an inch in thickness. According to the view advanced some years ago by Dr. Austin Flint, Jr., the fatal condition thus occasioned is cholesteræmia. This theory, however, can hardly be regarded as established and the patient may have died of uræmia, a term which may be used for convenience sake, without implying by it that we hold that urea as such is always the cause of the symptoms, but simply that there is some hurtful excretion element, it may be urea arrested in its downward career from leucine.

There was no sign whatever of gall-stone during life, and there was no hepatic colic (which was present in all other cases the speaker had seen) to elucidate the ætiology of the case. Murchison, however, reports that such cases have occurred, though rarely. The effects of a gall-stone might depend to some extent upon its roughness or smoothness of surface; in the former case there would be likely to be more pain, with incomplete obstruction; in the latter the reverse. The patient died with all the symptoms usually attributed to uræmia.

Dr. Chew finally remarked that relief was not always the result of the onward passage of a gall-stone. Death might be due occasionally to the depressing influence of agonizing pain, inflicting a great shock upon the solar plexus, or to the inhibitory influence of the pneumo-gastric, stopping the action of the heart. Possibly the retarded action of the heart, favored by the retention of the bile-acids, may be in part due to such an increased inhibitory influence. Perforation of the duct from pressure and consequent peritonitis

are contingencies to be thought of. This was supposed to be the cause of suddenly developed peritonitis, collapse and death, in a patient undoubtedly suffering from a gall-stone, seen by himself in connection with Dr. Chatard.

Dr. Arnold said he would not know how to diagnose a gall-stone without the previous occurrence of hepatic colic.

NICHOLAS TULP—(1593-1672).

A sketch by GEORGE JACKSON FISHER, M. D., of Sing Sing, N. Y.

How many of those who have looked at the popular office picture of Rembrandt's "Anatomical Lecture," either in engraving, in chromo, or as an oleograph, or even those still more favored ones of our profession who have gazed upon the original canvass, at the Hague in Holland, are in possession of any information concerning the history, or of the personal character of the central figure of the group, who stands with his broad-brimmed hat upon his head by the side of a brawny Dutch cadaver demonstrating the anatomical structures of the left fore-arm to seven intelligent and deeply interested surgeons by whom he is surrounded?

This man is Nikolaas Tulp who was born October 11th, 1593, at the city of Amsterdam. It is said that he assumed the name of Tulp in reference to a tulip carved over the front of his paternal mansion.

The encyclopædias, biographical dictionaries and works on medical bibliography furnish us with very scanty materials for a sketch of this character, who may, in reality, be more celebrated now at the end of two centuries after his death than he was renowned during his lifetime. To Mackness, and to Abraham Solomon Vander Voort, who has adorned the fifth edition of Tulp's "Medical Observations" with a life or rather a flowery eulogy of the author, I am indebted for a portion of the following facts:*

**The Moral Aspects of Medical Life*, consisting of the "Akesios" of Prof. K. F. H. Marx. Translated from the German. With biographical notices and illustrative remarks by James Mackness, M. D. 8mo. Pp. 318. London: 1846.

Observationes Medicæ. Editio quinta. 12mo. Longd. Bat. 1716. Vita ab A. S. Vander Voort.

His father was an opulent merchant of the city of Amsterdam. Nicholas having already received a liberal education selected medicine as a profession, "therefore," says Voort, "he at once betook himself to Leyden, to the temple of wisdom, the domicile of the Muses, the mother and nurse of all learning." Here he imbibed medical science from those fountains of learning, Vostius, and Heurinus, and others of no less celebrity at that period. Having been amply imbued with all the medical lore of this ancient and famous University he returned to his native city and practiced, first surgery, then medicine, with equal honor to those professions, as well as renown to himself.

He was so highly esteemed by the citizens of Amsterdam, and so much of a politician withal, that in 1622 he was chosen counsellor and sheriff. He had the distinguished honor of having served his city as Burgomaster, or mayor, for a long period of years, having been four times elected to that high office, which fact has been transmitted to posterity by a medal, which may be seen in the "Medallic History of the Low Countries," by Van Doon, (vol. iii. p. 54) and in the "Numismatic Recreations" of J. D. Kochler, (Part xiii, p. 309.) The magistracy of Tulpus was exercised in trying and difficult conjunctures, brought on partly by the ambition of the Stadtholder, partly by the war which Louis XIV declared against Holland in 1672. Tulp gave proof of his dexterity as a negotiator in the former crisis (1650) and signalized himself by manly energy in the latter. (Mackness). In 1672 he celebrated his eightieth anniversary, and fiftieth year of public life, by an imposing banquet.

He was the founder of the College of Medicine at Amsterdam, or as it is sometimes called the Anatomical Theatre, (Suijkamer), where he was Professor of Anatomy from 1628 to 1653, and delivered semi-weekly lectures during all that time. It is probable that his friend, the great painter Rembrandt von Ryn, attended these lectures as it is well known that he was profoundly interested in the subject of anatomy. Tulp was a warm friend and patron of Rembrandt. He commissioned him to paint the famous picture above alluded to, "The Lecture of Professor Tulp." This, Tulp presented to the Theatrum Anatomicum in 1632, the year in which it was executed. This is considered to be one of Rembrandt's most

famous paintings, and will always possess a special charm to all medical men.

At the end of one hundred and ninety-six years, being the year 1828, this time-honored and famous painting was sold at public auction, and knocked down to a one C. J. Nieuwenbuys, a dealer in pictures, and carried over to England and by him sold to William I., King of Holland, who brought it back to the Low Countries where it became the chief jewel of the gallery of the House of Orange at the Hague. How I hope, some day not long in the future, to enjoy the delight of beholding this fine old painting which has been gazed upon admiringly, in generations past, by so many of the disciples of Esculapins! May the Gods observe this intimation and further this design!

The Surgical Guild, to which Tulpus presented this painting when he was its honored President, occupied a part of the so-called St. Antoine-Waag on the New Market, which is still to be seen. Sad, indeed, must have been the day when, through financial embarrassment, the Guild found it necessary to sell all its possessions, including this master-piece, at public vendue.

The proceeds of this sale were funded for the benefit of the widows and orphans of the surgeons of Amsterdam. The painting which the King had permitted to ship out of the country cost his majesty thirty-two thousand florins, or gilden as some have it, being in our currency the handsome amount of about sixteen thousand dollars, yet not one-half of what it would now bring were it to be again auctioned off.

The seven persons who are so attentively listening to the lecture and observing the demonstrations are said to have been surgeons of note, and their portraits are believed to be very accurate, as they certainly are life-like and extremely striking. Though unable to obtain any information concerning their personalities, it is interesting to have their name as well as is their physiognomies preserved and transmitted to posterity. The person to the extreme left side of the picture as we stand holding it is (1) Jakob Koolveld; the next is (2) Adrian Slabraan, or, by another reading, Slalbraan; the one whose head overtops them all is (3) Franz Van Loenen; next below him is (4) Jakob Block; then we come still lower, almost on to the robust cadaver, to (5) Jakob de Vit, or de Wit; and next,

almost cheek-by-jole with him, is (6) Matthijs, or Mathys Kalkoen; and lastly, and nearest to the Professor, stands (7) Hartruan



Hernanz, or as some have it, Hartmann Hartmanez; who is holding a book in his hand. Four are sitting, two are leaning forward, all are looking on with profound interest and with intelligent understanding. The grouping of the class is admirable. They are all bedecked in gorgeous array, their necks are adorned with broad ruffled white lace collars, their faces with beards and moustaches, and all their heads are uncovered, while the lecturer alone wears his hat, and which is somewhat jauntily tilted suggesting an air of pardonable complaisance.

The works which Tulpinus has left us consist of two hundred and twenty-eight "observations", which are followed by seventy-four "monita medica", translated from Hippocrates. They are all embraced in a neat little 12mo. of about 400 pages; illustrated with 18 copper plates, an engraved title page, and in the last edition (1716) with a fine portrait. The first edition of the work contained but three books, all the others, four books. It passed through five editions—1641, 1652, 1672, 1685 and 1716. Mackness speaks of an edition in the Dutch language which he says appeared simultaneously with the first Latin edition, *Observationes Medicæ*, 1641. Both

of my copies, the second edition, Amsteledami, Elzevir, 1652, and the fifth, Lugduni Batavonun, 1716, are in Latin, and contain four books.

It is pleasant to read the glowing terms in which Abraham Solomon vander Voort sets forth the labor of Tulp. "These observations are like gracious jewels in a golden ring. You will find in them the brevity of the Laconians with the perspicuity of the Athenians. Here those whom such curiosity possesses will find calculi in the arteries, polypi in the heart, hairs in the bladder, and cancers harmless. They will find lobes of the lungs cut off without danger; here they will be amazed to see the deaf understanding words, one man breathing through his ears, again, another speaking, though dumb; epilepsy cured spontaneously; here they will read of long sweats and the spitting of blood for thirty years." And further, of the "Observations", he says, "and in order that they might be of as much service as possible, he, with dying hand, refusing to perform its functions, his mouth already pale, but always retaining control of his mind translated some of the choicest of the aphorisms of Hippocrates into his native tongue."

Voort regrets the loss to the world of a book, which Tulpus at his death ordered to be committed to the flames, in which he learnedly showed that every country furnishes remedies for its peculiar diseases.

While he was living he adopted the symbol, represented by a burning candle, "I am consumed by serving others." One of my choice engraved portraits of Tulp has the lighted candle before him with the motto, *Aliis inserviando consumor*.

He died in 1672, his memory was celebrated by a funeral oration pronounced by Louis Wolzogen, his personal figure and appearance is perpetuated by a statue, in white marble, still to be seen in Amsterdam, which was chiselled by one of her most famous sculptors.

Voort exclaims, "that sacred head adorned with snowy whiteness is always to be venerated by us. He is not dead. He lives in the breathing marble statue, not only in the monument of the books he wrote, not only in the eternal fame of the city of Amsterdam, but he lives in our minds, in our breasts, in our pious recollection of those virtues which no oblivion will destroy."

CLINICAL REPORTS.

QUININE AND VERATRUM VIRIDE AS THERAPEUTIC AGENTS IN THE TREATMENT OF PNEUMONIA.

By CHAS. K. GARDNER, M. D., Laurinburg, N. C.

While engaged in the pursuance of my profession in Richmond, Va., now about the lapse of one year, my attention, through the pages of the *Southern Clinic*, Vol. II, No. 1, April, 1880 issue, was called to the above agents in the treatment of pneumonia, during which time, ample facilities have been presented to support the efficacy of its adoption in my practice, and now, I only desire to add my experience to the catalogue of successful results.

Pneumonia is, pathologically speaking, an engorgement of the lung tissue, this state producing active hyperæmia, resulting in inflammatory products and a subsequent exudation into the pulmonary structure with the various accompanying symptoms and conditions peculiar to the affection. In no other disease has a greater diversity of opinion existed relative to treatment than in this, in fact, each practitioner adopts a special course as seems best to coincide with his ideas, and no disease, of late, has become so thoroughly subservient to medical control, and from which more satisfactory results can be obtained than pneumonia. In pneumonia, pyrexia of the system is always present and as previously stated, an engorgement of the pulmonary structure. The great desiderata then are, control of both these pathological states, a diminution of temperature and the vis a tergo. No agents so readily accomplish this end, as quinia and veratrum viride. In the former drug, we have an efficient antipyretic which notably reduces the temperature, not only by lessening the afflux of blood to the heart, but by its diaphoretic properties. In the latter, we have an agent of inestimable value in the ready control of arterial action which, however, must be administered with caution and observed scrupulously.

In the treatment, (which has long been a *questio vexata*,) of my last case, an adult, æt. 30 years, I proceeded with a mercurial, followed by a brisk saline, in order to arouse hepatic secretions and relieve the primæ viæ of any fecal contents. Being then in the first stage, I ordered the application of a cataplasm, to which had been

added ℥ ss *sinapis alba*, over the affected lung, at this period the heat registered 103° in the axilla. I then directed that *grs. xxx* of quinia be administered through the day, *grs. x* being given at intervals of four hours, and in conjunction, ordered the following :

R.

Tinct. Verat. viride, } āā f. 3 i.
 Tinct. Opii, }
 Sodii. salicylat. 3 is.
 Aqua pura, q. s. ad. ℥ iv.

M. Teaspoonful pro re nata.

This plan of treatment I adopted from the beginning of the attack, which was continued until the seventh day ; subsequently, the *veratrum viride* was omitted and the quinine continued, however, in reduced doses. From the beginning of this treatment fever gradually diminished, gentle diaphoresis was frequently noticeable; expectoration became free, a diminution of dyspnoea, the patient resting well at night, and about the twelfth day resolution was complete and recovery rapid. This imperfect sketch embraces the happy result of this valuable mode of treatment which I present to others of the profession, unacquainted with its great advantages, and beg of them a trial, feeling assured of their ample requital.

FRACTURE OF RIGHT FEMUR AND LEFT PATELLA.

By W. J. H. BELLAMY, M. D., Wilmington, N. C.

Martens, German, æt. 29, sailor, sustained a fracture of right femur and left patella while walking across the hatchway on board the American schooner *Jesse Elizabeth*, Captain Weaver, December 30th, 1880. The distance of the fall to the keelson below, where patient struck, was about twenty feet. The fracture of the femur was complete and oblique in middle third ; that of the patella was complete and transverse, the interspace being considerable and well marked. Upon receiving the call, I provided myself with Ahl's or Koehler's adaptable splint, now in pretty general use in surgery. This splint material, I must think, is composed of osnaburg's or felt into which shellac or some such resinous substance has been

incorporated which admits of its being warmed and made pliant, thus facilitating its application to the inequalities of the surface of the body. It is hard when cold and ordinary temperature does not affect it; dry heat renders it *remarkably pliant*.

This splint was applied posteriorly, the whole length of both limbs, and anteriorly over the patella of the left limb. Both limbs were well extended and the left one slightly elevated.

The splint applied anteriorly over the patella was about four inches wide, and fourteen inches long, with a *hole cut in it*, corresponding in size to the normal patella.

This splint was softened by heat, lined with glazed cotton and applied with ordinary roller bandage, the fractured ends of the patella having been brought into close apposition.

A dose of morphia, hypodermic, was then administered, and arrangements made to have him transferred to U. S. Marine Hospital, Dr. Wood, Surgeon.

At the end of two months, Dr. Wood removed the bandages in presence of Dr. Walker and myself, and apparently firm union had taken place. The patient was provided with crutches and gentle, but daily exercise enjoined. The use of the limb in a great measure has been restored and the patient can be seen walking to and from the hospital daily.

I claim the advantage of treating fracture of the patella upon this plan over all others, as being less painful, equally as effective and certainly more simple; not so barbarous as Malgaigne's hooks, and more effective than the figure of eight contrivances so often resorted to.

Resorcine a Derivative of Assafetida.—Dr. Dnjardin-Beaumetz has recently experimented with resorcine, a crystalized body, white, odorless, soluble in all proportions. It prevents fermentation in all albuminous substances,—milk, urine, etc. The Germans have used it chiefly for wound dressings, its action being similar to that of carbolic and salicylic acid. It may be employed in all kinds of ulcerations as a topical remedy, and as a gargle in diphtheria. It is poisonous in large doses. The remedy, in fact, is a substitute for carbolic acid, having all of its properties without the disagreeable odor.

SELECTED PAPERS.

BOTANY AS A GUIDE TO THERAPEUTICS.

In a recent number of the *American Therapeutic Gazette*, Mr. Spalding, the Professor of Botany in the University of Michigan, contributes an important and interesting paper on the active properties of plants considered as a feature of relationship. Recent investigations have shown that experiments in therapeutics might be instituted, with much greater chances of success, by attending to certain facts of relationship familiar enough to botanists, but little studied by those engaged in the active practice of medicine. There is reason to believe that botanical relationship indicates, and more or less perfectly defines, the active properties of plants. A study of a few familiar natural orders will illustrate this proposition, and may, perhaps, prove of practical value in reducing the number of fruitless therapeutic experiments by suggesting a reasonable basis on which to conduct such investigations.

First and foremost in our manuals of botany, we find the Ranunculaceæ or Crowfoot family, an order of highly developed plants, of clearly defined form and structure, and of marked physiological properties. The species belonging to this family are, with but few exceptions, acrid and poisonous, and many of them yield active principles which are of daily and hourly use in the treatment of disease. Thus the *Aconitum Napellus*, Aconite, Wolfsbane, or Blue Rocket, is of inestimable value in febrile affections. The Black Hellebore, famous, or rather infamous, from the remotest times, possesses powerful narcotic and irritant properties, and has often proved fatal when accidentally administered. The seeds of the various species of Larkspur are sufficiently active to render them efficient vermicides. The cholagogue properties of *Podophyllum* are well known; whilst the *Hydrastis Canadensis*, or Golden Seal, with its resin Hydrastin, is coming largely into use, and is likely to occupy a permanent place in our list of remedies. The *Pulsatilla* or Anemone, and the *Actæa*, exert a powerful action on the uterus; and, in America, are generally employed by the obstetrician and gynæcologist.

Passing by without special notice a number of smaller orders, we

come to the *Cruciferae* or Mustard family, represented by Mustard, Scurvy-grass, Radish, Cresses, and various other well-known pungent herbs, constituting a decidedly marked family of plants, whose active properties are no less uniform than the cruciform tetradynamous flowers which indicate at a glance their botanical relations. There are no poisonous plants in this order, but all its representatives are characterized by the presence of a pungent juice, mild enough in the various cresses to produce an agreeable salad, but much stronger, and mixed with a powerful volatile oil, in Horseradish, Mustard, and others, imparting to them decided antiscorbutic and rubefacient properties present in plants of the mustard family, that their action may be calculated upon with certainty. This fact has several practical bearings. In the first place, it is not improbable that many more species of the family will be found to have a definite therapeutic value; as, for example, the common herb Shepherd's Purse, which has recently been favorably noticed as a diuretic. On the other hand, these same properties may occasion very deleterious effects; as, for instance, when even a small percentage of the seeds of any species of this family is introduced into linseed-meal when employed as a demulcent.

Passing on to another natural order, we find the Mallow family distinguished for their mucilaginous properties. The demulcent action of *Althæa* root has brought it into very extensive use; and its properties are shared, to a very great degree, by other species of the order, among them the Hollyhocks, which are sometimes substituted for it. The root of the cotton-plant, however, appears to be exceptional in its action, producing effects which have been compared to those of ergot, and believed by some to be quite as efficient. So marked a case shows plainly that, permanent and uniform as family characters may be, they cannot be followed blindly. As with all rules, prominent and undoubted exceptions occur.

The *Cucurbitaceæ* or Cucumber family, distinguished botanically by its gourd-like fruits and climbing habits, is noted therapeutically for an acrid, bitter, purgative property, which renders many of its species drastic cathartics. *Citrullus Colocynthis*, the "Wild Vine" of the Old Testament, and the "Bitter Apple" of the *Materia Medica*, possesses such properties to a remarkable degree, even the dust inhaled in handling the dried pulp revealing the intense

bitterness of the fruit. The White Bryony root of Europe, and the Elaterium of the *British Pharmacopœia*, derived from the Squirting Cucumber, are both violent cathartics, and in over-doses poisonous. Luffa Purgans, and Luffa Drastica, sometimes called American Colocynth, are also violently purgative. However much the active purgative properties of plants of this family may become diffused and modified under cultivation, its species can never be entitled to perfect confidence. Green cucumbers, for example, are usually harmless enough, but the "old bitterness" in their nature is liable to re-appear in unaccountable reversions to the ancestral character.

The Solanaceæ constitute a large and important order. Narcotic properties are exhibited by most of its species, though it is also the source of some of our most useful food-plants. Belladonna, Stramonium, Hyoscyamus, Duboisia, Pituria, and Tobacco, the sources of such principles as atropia, daturia, hyosciamia, and nicotia, have exercised a potent influence on the human family; whilst the common potato, *Solanum Tuberosum*, has contributed in no small measure to its maintenance. This last species shares, to some extent, the narcotic and poisonous properties of the family; but the tuber, being merely a receptacle for starch, does not develop these unless exposed to the light. The stalks, leaves, and unripe fruits of the potato produce an active principle, apparently very powerful, which has not been fully investigated.

Several other orders well worthy of critical study must be briefly noticed. The Labiatae are aromatic and stimulant; Spearmint, Peppermint, Pennyroyal, Sage, Lavender, Rosemary, and a host of other familiar examples, serving as illustrations. Wood Betony, *Betonica Officinalis*, is coming largely into use in America, and is said to be one of the most active of the new remedies.

Of the fungi, a large number of species have taken a prominent position as medicinal agents, notably the *Claviceps Purpurea*, the Ergot of Rye, *Ustilago Maidis* or Corn-Smut, and the *Agaricus Muscarinus* or Fly Agaric. Here, too, belong the various ferments, such as ordinary yeast and others, not to mention the host of disease "germs", whose life-history and physiology constitute one of the great problems of modern science.

It will be seen from the study of a number of orders selected

from the principal class of plants, that active properties are often a marked and reliable feature of relationship; and that they constitute, in such cases, a family character nearly, or perhaps quite, as distinctive as the structural characters upon which the union of various species into families is at present based. A more careful and exhaustive study of all the leading orders from which therapeutic agents are derived by the light of these principles, must, it would seem, result in eliminating a portion at least of the uncertainty under which new and often valuable remedies struggle into recognition, and in ruling out more promptly the worthless species that are so often suffered for many years to encumber our *Materia Medica*.—*British Medical Journal*.

RECENT STUDIES IN THERAPEUTICS.

CHAULMUGRA OIL.

Chaulmugra oil is obtained from the seeds of *Gynocardia odorata*, a large tree, much branched, with ash-grey globular fruit, some three or four inches in diameter. It is a native of Pegu, Tenasserim, and other parts of the Malayan peninsula, whence it extends into India, being found in Assam, Khasia, and Skikkim, but not in the central or western parts. The seeds (*Gynocardia semina*) are officinal in the *Indian Pharmacopœia*, and are popularly known as chaulmugra, chaulmogra, or chaulmoogra seeds. The oil expressed from these seeds has been known for centuries to the Fakirs of India, by whom it is largely used in the treatment of leprosy, and skin-diseases generally. There is evidence to show that it has been employed by the aboriginal tribes in certain parts of India from the remotest times.

At the ordinary temperature, the oil is solid, has a light-brown color, and a decidedly disagreeable taste and smell. It may be readily melted by placing the bottle in hot water, or allowing it to stand for a few minutes in front of the fire. It has been analyzed, and is found to consist of palmitic, gynocardic, hypogæic, and oœinic acids. The palmitic constitutes sixty-three per cent.; but

the gynocardic acid, which is found in a much smaller proportion, is probably the active ingredient. The oil is given internally, and is also used as an external application. It is most conveniently administered in empty capsules, or in *perles*; but many patients take it well in milk, cod liver oil or almond oil. The usual dose is from five to fifteen minims. It is best to begin with a small dose, say two or three minims, three or four times a day, gradually increasing the quantity as the patient becomes accustomed to it. Dr. Murrell, as the result of a large number of observations, found that, when administered in milk or cod-liver oil, ten minims very frequently upset the stomach, giving rise to nausea and vomiting, and not unfrequently diarrhoea. The chaulmugra oil *perles* contain four minims each, and most patients will take from one to four of these at a dose. When it is desirable to vary the dose frequently, the empty gelatine-capsules will be found useful. It is almost essential that some such special mode of administration should be adopted, as few patients like the taste of the oil, or will consent to take it by itself for any length of time. It must always be given after meals.

Chaulmugra oil has long been used in India in the treatment of leprosy, and has acquired a high reputation as a remedy for that disease. From the comparative rarity of true leprosy in England, much difficulty has been experienced in collecting a sufficient number of cases in which to try its effects. This difficulty is increased by the fact that, in temperate climates, the disease often exhibits long periods of comparative rest or subsidence, quite apart from any special treatment. Dr. Robert Liveing has published a record of six cases of elephantiasis Græcorum, in which he was able to give the chaulmugra a long and continuous trial. He found that all six cases were decidedly benefited by the treatment, and the patients themselves were strongly impressed with the belief that they had decidedly improved under its internal use as a medicine. Mr. Wyndham Cottle has published two cases in which equally good results were obtained. The oil was here given as a mixture suspended in gum, or in the form of emulsion. Usually large quantities were administered, the dose being gradually increased to as much as a drachm three times a day. Moreover, an ointment, consisting of twenty grains of chaulmugra oil to the ounce of lard, was

applied freely to the skin. Quite recently, Dr. David Young, of Florence, has published a more extensive series of cases in which most striking results were obtained. The forms of the disease noted were: macular leprosy, four; anæsthetic leprosy, twenty-three; tubercular leprosy, fifteen; and mixed cases, eleven. The patients were all adults, the proportion of males to females being about three to one. The treatment consisted in the internal administration of doses varying from five to twenty drops, three times a day, commencing with the smaller quantity, and gradually increasing it until the latter was reached. Externally, a liniment, composed of an ounce of the oil, mixed with a drachm of rectified spirit, was applied to the diseased surface. Dr. Young found that in the macular and in the early stage of the anæsthetic forms of leprosy, the chaulmugra was of decided value. The good results appeared earlier when the powdered seeds were given in addition to the oil. A liberal milk diet was found to be a valuable auxiliary. Several of the cases were complicated with bronchial affections, which were markedly benefited during the treatment, all the patients gaining flesh rapidly.

In many skin diseases, the chaulmugra oil treatment proves beneficial. It has been tried with success in psoriasis, lupus, and obstinate cases of scabies and ringworm.

Chaulmugra oil was originally introduced as "a specific for consumption"; but there is certainly as yet no evidence to show that it deserves this distinctive title. Dr. Burney Yeo has reported nine cases of phthisis in which it was given internally with little or no benefit. He considers that it gives no promise of help in well-marked cases where the disease has reached the stage of infiltration and softening of any considerable portion of the lung. Dr. Murrell, as the result of a series of observations extending over two years and a half, arrives at a somewhat different conclusion. In thirty-one of his cases, the chaulmugra oil was given in milk, in doses ranging from three to ten minims, four times a day; and, in twenty-four of these, decided benefit was experienced. The chaulmugra seemed to act, first as an expectorant; then the cough became less troublesome; and, finally, a gradual improvement took place in the general symptoms. The best results were obtained when, in addition to the internal administration, from two to four

ounces were rubbed into the chest weekly for two or three months. The inunction never upsets the stomach or gives rise to unpleasant symptoms. The smell is not very agreeable, but is readily covered by using a little violet-powder. The oil may be employed alone or simply as an adjunct to other treatment.

It is found that children, as a rule, take the chaulmugra without difficulty; and its internal administration, combined with inunction, has been employed with benefit in scrofula and in cases of marasmus.

In chronic rheumatism and in rheumatic gout, it is most useful. A patient recording his own experience says: "A month since, I was suddenly seized with a severe attack of rheumatism; and so acute was the pain, that, for two days and nights, I could not sleep, and the swelling of my hands made me quite helpless. I could neither dress nor feed myself. Having had a sharp attack of rheumatic fever about twenty years ago, I was very much afraid that I was again to be laid aside from business; and you, I fear, will hardly believe that, within three hours of the application of the oil, the use of my hands was restored to me; and that, from that day to this, I have had no return of the pain." Non-professional testimony is not, as a rule, very trustworthy, but there are occasions when it cannot be ignored. For stiff joints, sprains and bruises, both in men and horses, the oil is said to be equally efficacious.

For neuralgia and sciatica, the chaulmugra oil is generally mixed with camphor and chloroform, or with an equal weight of a saturated solution of menthol in chloroform, and then rubbed in over the painful part.—*British Medical Journal*.


Quebracho in Dyspnœa.—Penzolt's results (published in this journal from the *Berliner Klinische Wochenschrift* about a year ago) have been confirmed recently by Berthold, who has used this remedy in five cases of intense dyspnœa. In one case of very severe convulsive asthma rapid relief was obtained by the administration of the tincture in teaspoonful doses given three or four times within an hour. In a case of emphysema with bronchial catarrh, the same preparation given for twenty-four hours brought the respirations from forty-eight to thirty-two per minute. In a case of pleurisy it failed. The fluid extract has been found useful in diarrhœa.—*Philadelphia Medical Times*.

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED
IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

 *Original communications are solicited from all parts of the country, and especially from the medical profession of THE CAROLINAS. Articles requiring illustrations can be promptly supplied by previous arrangement with the Editor. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the JOURNAL, by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to THOMAS F. WOOD, M. D., P. O. Box, Wilmington, N. C.*

THE NORTH CAROLINA PHARMACY ACT OF 1881.

Less than a year ago we noticed that the pharmacists of this State were making efforts towards the enactment of a law for the safety of the public and the protection of their interests. The bill first introduced by the committee having the matter in charge, failed. Nothing daunted by this failure, another was prepared, and is now the law. We congratulate our friends upon the early consummation of their purpose.

We give below some of the more important features of the law :

* * * *

It shall be unlawful from and after the passage of this act, except as hereinafter provided, for any person unless a registered pharmacist, within the meaning of this act, to open or conduct any pharmacy or store for retailing, dispensing, or compounding medicines or poisons, or for any one not a registered pharmacist, in the State of North Carolina : *Provided*, That nothing herein contained shall prevent the sale of patent or proprietary medicines, quinine, epsom salts, castor oil, essence

of peppermint, paregoric, or laudanum in original package, calomel, camphor or sweet oil.

Any person, in order to be registered as a member of said association, shall be a graduate of some college in pharmacy, recognized by the North Carolina Pharmaceutical Association, or shall, at the passage of this act, have had three years practical experience in the preparation of physician's prescriptions and in compounding and vending medicines and poisons, or shall be a licentiate of pharmacy of the Board of Pharmacy of North Carolina, or one who is or has been a regular practicing physician, as hereinafter provided.

Pharmaceutists, claiming the right of registration under this act, on account of practical experience, shall within ninety days after its passage, show to the satisfaction of the Board of Pharmacy to be created by this act, that they have had three years practical experience in the preparation of physician's prescriptions, and in compounding and vending medicines and poisons: *Provided*, Nothing in this act shall apply to any person or persons in business on their own account upon the passage of this act, nor to those who are, have been, or may hereafter be regular practicing physicians. Licentiates in Pharmacy must have had three years experience in stores where prescriptions of medical practitioners have been prepared, and shall have passed an examination before the Board of Pharmacy of this State. The Board of Pharmacy may register without further examination, the licentiates of such other Boards of Pharmacy, as they may deem proper.

The Pharmaceutial Association shall elect ten of its members, from whom the Governor selects five, who shall compose the Board of Pharmacy. The Board is empowered to transact all business relating to the legal practice of Pharmacy; to examine into and adjudicate upon all cases of abuse, fraud, adulteration, substitution or malpractice, and to enforce all the provisions of the law, and to render an annual account to the proper State authorities and to the Association. Any one examined by the Board shall pay a fee of five dollars. In case of failure to pass a satisfactory examination, he shall be granted a second examination, without the payment of further fee. It shall be the duty of the members of the Board, after receipt of notification of their appointment, to appear before the clerk of the county in which they individually reside,

and make and subscribe to an oath properly and faithfully to discharge the duties of their office ; and within thirty days thereafter meet and organize by the election of a President and Secretary of said Board. The Secretary shall be elected to serve for the term of five years, and the term of office of the other members shall be determined by lot. Vacancies in the Board shall be filled as provided in Section 12. The Board shall hold meetings at least once annually or oftener, as the business of the Board may require. The Secretary shall give each member of the Board not less than ten days notice of each meeting. Three members shall constitute a quorum. It shall be the duty of the Board to examine all persons applying for examination in proper form, and to register such as shall establish their rights to registration in accordance with the provisions of this act.

It shall be the duty of the Secretary of the Board of Pharmacy to keep a book of registration at some convenient place, of which due notice shall be given through the public press, in which shall be entered under the supervision of the Board, the names and places of business of all persons coming under the provisions of this act, and a statement to be signed by the person making the application, of such facts in the case as he may claim to justify his application. The fee for registration for proprietors shall not exceed two dollars, and for those not in the employ of others shall not exceed one dollar. The Secretary shall give receipts for all moneys received by him, which moneys shall be used for the purpose of defraying the expenses of the Board of Pharmacy, and any surplus shall be for the benefit of said Association. The salary of the Secretary shall be fixed by the Board, and shall be paid out of the fees for examination and registration. Each member of the Board of Pharmacy shall receive the sum of five dollars for every day engaged in the service of the Board. It shall be the duty of the Board to investigate all complaints of disregard, non-compliance or violation of the provisions of this act, and to bring the same to the notice of the proper prosecuting officer, whenever there appears to the Board reasonable grounds of complaint. The Board is hereby empowered to make such rules and regulations as it shall find necessary for carrying into effect the provisions of this law, not inconsistent with the purpose and spirit of the same.

Every person, from and after the passage of this act, shall be held responsible for the quality of all drugs, chemicals and medicines he may sell or dispense, with the exception of those sold in the original packages of the manufacturers, and also those known as "patent medicines;" and should he intentionally adulterate or cause to be adulterated, or exposed to sale, knowing the same to be adulterated, such drugs, chemicals or medical preparations, he shall be deemed guilty of a misdemeanor, and upon conviction thereof be liable to a penalty not exceeding one hundred dollars, and in addition thereto his name shall be stricken from the register. Every registered pharmacist who desires to continue the practice of his profession, shall annually thereafter, within thirty days next preceeding the annual meeting of the Board of Pharmacy, pay to the Secretary of the said Board a registration fee of fifty cents, for which he shall receive a renewal of said certificate of registration. Any registered pharmacist failing to renew his registration as required by this section, and continuing in the exercise of his profession, shall be guilty of a misdemeanor.

It shall be unlawful for any person, under a penalty of \$25.00 for each and every offence, from and after the passage of this act, except as provided herein, to retail any poison enumerated in Schedules A and B, as follows, to-wit:

SCHEDULE A.

Arsenic and its preparations, corrosive sublimate, white precipitate, red precipitate, bin-iodide of mercury, cyanide of potassium, hydrocyanic acid, strychnine and essential oil of bitter almonds.

SCHEDULE B.

Aconite, belladonna, colchicum, conium, nux-vomica, henbane, savin, ergot, cotton root, cantharides, creasote, digitalis and their pharmaceutical preparations, croton oil, chloroform, chloral hydrate, sulphate of zinc, carbolic acid, oxalic acid, opium and its preparations, except paregoric and other preparations of opium containing less than two grains to the ounce, and other deadly poisons, without distinctly labeling the bottle, box, vessel or paper in which said poison is contained, with the name of the article, the word "Poison," and a vignette representing a skull and bones, and the name and place of business of the seller; nor shall it be lawful for any person to sell or deliver any poison enumerated in said

Schedules A and B, unless upon due inquiry it be found that the purchaser is aware of its poisonous nature, and represents that it is to be used for a legitimate purpose, nor shall it be lawful for any person to sell any poison included in Schedule A, without, before delivering the same to the purchaser, causing an entry to be made in a book kept for that purpose, stating the date of the sale, the name and address of the purchaser, the name and quantity of the poison sold, the purpose for which it is represented by the purchaser to be required, and the name of the dispenser, such book to be always open to proper authorities for inspection. The provisions of this section shall not apply to the dispensing of poisons in usual doses and by physician's prescriptions.

Nothing contained in the foregoing section shall apply to or interfere with the business of any practitioner of medicine who does not keep open shop for the retailing of medicines and poisons; nor with the business of wholesale dealers, excepting section nine and the penalties for its violation.

Any person who shall permit, by wilful neglect, the compounding and dispensing of prescriptions in his store or place of business, by any person or persons not registered, except under the supervision of a registered pharmacist, or any person not registered who shall keep open shop for the retailing or dispensing of medicines or poisons, or who shall fraudulently represent himself to be registered, or any registered pharmacist or any dealer in medicines, who shall fail to comply with the regulations and provisions of this act, in relation to retailing and dispensing of poisons, shall, for every such offence, be deemed guilty of a misdemeanor, and upon conviction thereof, be liable to a penalty not exceeding twenty-five dollars.

Immediately on passage of this act, the Governor shall appoint five reputable and practicing pharmacists doing business within the State, from ten of said pharmacists recommended to him by the North Carolina Pharmaceutical Association; said pharmacists, so appointed, shall constitute the Board of Pharmacy of the State of North Carolina, and shall hold office for the term of one, two, three, four or five years respectively, as herein provided, and until their successors have been duly appointed and qualified. The North Carolina Pharmaceutical Association shall annually thereafter recommend five Pharmacists, from which number the Governor

shall fill the vacancy annually occurring in said Board. In case of death, resignation or removal from the State of any member of said Board, the Governor shall appoint in his place a pharmacist from the names last submitted to him, to serve as a member of the Board for the remainder of the term.

The penalties prescribed by this act shall be recovered by suits in the name of the people of this State, according to the statute in such cases provided, to be prosecuted by the proper officers of the counties respectively where the violations of the provisions of this act may be committed.

Any pharmacist failing to comply with the requirements of sections five and eight within ninety days from and after the passage of this act, shall forfeit his right to registration, and shall appear before the Board of Pharmacy for examination, as provided in section five of this act.

This law only applies to towns and cities of over five hundred inhabitants.

MARINE HOSPITAL SERVICE AT WILMINGTON.

Dr. Fairfax Irwin, Assistant Surgeon United States Marine Hospital Service, has taken permanent charge of the Marine Hospital Service at Wilmington. The excellent building belonging to the Service is being refitted for early occupancy, and it will be when completed the handsomest hospital on the coast.

We congratulate the Service on having successfully resisted the designs of the political "bosses," who had their hearts set on rewarding a political favorite for party services, by putting him in charge of the hospital.

The Service has steadily advanced in respectability at this port for the past few years, and it would have been a decided retrogression to have fallen a prey to professional politicians at this stage of its development.

The entire history of the changes which have been made recently in the Service in this city, if rehearsed, would certainly discredit the loud pretensions of ethical purity indulged in by one prominent applicant for the position as medical officer.

MEDICAL EDUCATION.

It seems to us that medical education has reached a crisis in this country, which must arrest the attention of the profession and the general public in a serious way. The nefarious transactions of Buchanan, the diploma seller, are too well known to rehearse ; but as bad as they are, they are not worse than other phases of the diploma transactions in other parts of the country. In North Carolina a college was chartered by that most notorious revolutionary Legislature of 1868, under the title of the "Edinburgh Medical College." This miserable cheat sent an unknown number of men abroad with diplomas, chiefly into South Carolina, and its career of infamy was only ended by the death of *the* only "professor." So far, only one of the graduates of this "college" has presented himself before the Board of Examiners for license, and he was rejected—not because he presented the diploma of a disreputable school, but simply his qualifications, the only test acknowledged by the law of the State.

In looking over the very long list of persons who bought diplomas from Buchanan, as published in the *Philadelphia Record*, we discovered eight belonging to North Carolina. It may be shown that there are more to be added when completer investigations are made, although we hope not. Among this number we recognize two who are now probably practising in this State.

As more and more light is shed upon the uncertainties which surround the issue of diplomas, the public, that heretofore amiably considered a diploma from one medical college as the equal of that from any other, and that medical graduation meant the preparation of a student up to a certain general uniform standard, is now having its faith seriously shaken. It is at this crisis in the condition of medical education, that the wisdom of the North Carolina law is so apparent. Every year thinking people are beginning to recognize the necessity of separating the teaching and the examining bodies.

That our people may know something of the extent and character of the work of the Board of Examiners, we append the report of Dr. H. T. Bahnson, Secretary.

PARTIAL REPORT OF THE PROCEEDINGS OF THE BOARD OF MEDICAL
EXAMINERS OF THE STATE OF NORTH CAROLINA.

During the past two years there have been seventy-five applications made to the Board for license to practice medicine in the State. Of these, after personal examination of the applicants, sixty-three were granted, and twelve were refused. With the exception of four, the applicants were graduates of various medical institutions, as follows :

NAMES OF COLLEGES.	LICENSED.	REJECTED.	TOTAL.
Jefferson Medical College, Philadelphia.....	5	.....	5
Washington University, Baltimore.....	13	3	16
University of Maryland.....	8	.....	8
Long Island Hospital College.....	1	.....	1
Bellevue Hospital Medical College.....	6	.....	6
Louisville Medical College.....	5	.....	5
Kentucky School of Medicine.....	1	1	2
Philadelphia University.....	1	.....	1
University of New York.....	10	.....	10
University of Pennsylvania.....	2	.....	2
Medical College of South Carolina.....	3	1	4
College of Physicians and Surgeons, Baltimore.....	3	2	5
Baltimore Medical College.....	1	1	2
University of Virginia.....	1	.....	1
Central University of Louisville, Kentucky.....	.....	1	1
McLean's School (North Carolina).....	.....	1	1
Unknown.....	.....	1	1
Non-graduates.....	3	1	4

The year of graduation of rejected applicants, was as follows :

Washington University, two in 1868, and one in 1872.

Kentucky School of Medicine, one in 1876.

College of Physicians and Surgeons, Baltimore, one in 1872 and one in 1879.

Charleston Medical College, one in 1876.

Baltimore Medical College, one in 1876.

Central University of Louisville, Kentucky, one in 1875.

McLean's School (N. C.), one in 1875.

HENRY T. BAHNSON, M. D.,

Secretary Board of Med. Examiners, of N. C.

Salem, N. C., February 9th, 1881.

It will be seen that out of *seventy-five applicants, twelve were rejected*, and even at this rate, the standard of examinations was by

no means as high as the Board wished to make it. It was painfully evident to the most earnest friends of the Board, that if a higher standard had been maintained, twice as many would have failed. If the people of the State were fully aware of the experiences which have been accumulated by the Board, they would demand a more stringent law than the one now in force.

COMMUNICABILITY OF PUERPERAL FEVER BY THE MEDICAL ATTENDANT.

In a paper on this subject (*Brit. Med. Jour.*, 1880, p. 771) Dr. Macdonald concludes as follows: 1. The diligent and intelligent employment of antiseptic precautions and appliances, good ventilation and extreme cleanliness are capable of diminishing very largely the occurrence of septicæmia, both in maternity hospitals and in private practice. 2. If antiseptics are carefully and systematically employed, there should be no case of the communication of the disorder from one patient to another by the medical attendant, even when he performs for the sick person all the duties that are incumbent upon him as a medical adviser. It is always, however, to be understood that the doctor restricts himself to his own duties and does not encroach upon those of the nurse, and that his measures to secure perfect anti-sepsis shall be thorough in all cases where there is the slightest suspicion of septicæmia. It follows also, if these views are correct, that the recommendation, so frequently given to an obstetrician, to leave his practice, in case he meets with puerperal fever, is both unnecessary and unsatisfactory, inasmuch as it tends to the neglect of the most reliable measures of safety,—namely, constant attention to cleanliness and thorough and complete disinfection,—whilst it puts upon the obstetrician a burden that is too heavy for him to bear, and which, indeed, is not borne by the very people who are loudest in recommending its necessity.—*Philadelphia Medical Times.*

REVIEWS AND BOOK NOTICES.

LECTURES UPON DISEASES OF THE RECTUM AND THE SURGERY OF THE LOWER BOWEL. By W. H. VAN BUREN, M. D., LL. D., (Yalen.), &c., &c. 27 Illustrations. New York: D. Appleton & Company. 1881. Pp. 42. Price \$3.00.

The diseases of the rectum have never been a popular study with the physician, notwithstanding the fact of their frequent occurrence. The volume before us was accepted by the medical profession in its first edition, with marked favor. The present edition has been largely re-written, and made more useful to students and practitioners by introducing new matter, mainly in the shape of opinions and cases, from authentic sources, which the author's own experience has led him to select for their value in illustrating the present state of the knowledge of the surgery of the rectum.

Professor Van Buren has succeeded preëminently as a teacher in this department of surgery, and his work will long remain the standard volume on the subject. The mechanical execution of the work is excellent, many of the illustrations being entirely new.

We call the attention of our readers to one paragraph on the advisability of surgical operation for fistula in ano in certain cases :

“No judicious surgeon would operate with a view to a radical cure upon a patient with advanced cardiac disease, cirrhosis of the liver, Bright's disease, or cancer ; but, in the conflict of evidence as regards pulmonary disease, the tendency of opinion is clearly growing more favorable to well-considered operative interference. On the following points I do not hesitate to speak positively : there is no reliable evidence that the suppression of an habitual discharge can do harm in these cases ; on the contrary, it is pretty certainly a positive advantage to arrest it ; and I would advise the attempt to cure a fistula in a patient with physical signs of phthisis, provided there were no positively advancing softening or severe cough, because, in addition to stopping a waste, it would remove an impediment to exercise in the open air, possibly on horseback. The objections to operating where there is softening or hectic are, that the concussion from coughing and the lack of power might prevent the wound from healing, and the use of the knife would necessitate confinement to bed, and thus injure the patient.” Page 176.

The operation for the radical cure of internal hæmorrhoids which is preferred by Dr. Van Buren is as follows :

He first thoroughly dilates the sphincter-ani muscle, in order to have the lower part of the rectum at his disposition, and then proceeds to ligature the tumors. He transfixes the largest of them with a tenaculum, cutting through the integument at its base with scissors, around its extreme half, and as much more as seems desirable at the moment, and passes the tenaculum to an assistant with a request to draw gently upon it. He then passes a stout surgeon's needle armed with a double ligature from without inward, deeply through the base of the tumor, and, drawing it out through the mucous membrane within, cuts loose the needle, and tie slightly so as to strangle the included tissues thoroughly on either side, leaving for the present the ends of the ligatures uncut. This procedure is repeated upon each of the remaining tumors, of which there are rarely more than four or five, sometimes one or two. With the tenaculum and curved scissors the strangulated tumors are then cut away to within a safe distance of the ligatures—the ends of which, having been meanwhile useful in drawing apart the sides of the dilated opening so as to facilitate thorough inspection, are now cut short. An anodyne is then given—subcutaneously, or as a suppository placed in the bowel—the parts washed, and the patient placed in bed with a folded sheet beneath the buttocks. The description of this operation is followed by the assurance, that there is no operation in surgery which, in its ultimate results, gives more satisfaction than that he describes for the radical cure of internal hæmorrhoids. Pp. 50–51.

ANNALS OF ANATOMY AND SURGERY.—The April number of this valuable monthly journal deserves to be remarked upon, for the excellent array of papers on surgery of the neck and on tracheotomy.

Dr. Lewis S. Pilcher contributes an article on the "Anatomy of the Anterior Median Region of the Neck, with special Reference to the Operation of Tracheotomy in Children," illustrated with excellent wood cuts. Dr. William M. Mastin, of Mobile, writes on Croup and Tracheotomy in the Southern States. The conclusions drawn by Dr. Mastin we give below, noticing particularly how rapidly tracheotomy without tubes has grown into favor since first mentioned in our State Society by Dr. Charles Duffy, Jr.:

First. That procedure is the best which dispenses with the canula, or any mechanical appliance whatever placed within the trachea, and hence the excision method, or separating the wound by wires or threads passed through the lips of the divided trachea, is to be preferred, and appears to be based upon the soundest surgical principles.

Second. Tracheotomy *proper* is to be selected in all exudative inflammations of the windpipe.

Third. The low operation is preferable on account of the greater diameter of the trachea at its middle in children, the upper portion of that tube near and at its juncture with the larynx being more contracted in early life; and again, the further down the opening the more apt it is to be lower than the obstructive exudate.

Fourth. The recumbent position of the patient with the neck raised and somewhat extended, offers the easiest posture for operating.

Fifth. An anæsthetic is most desirable, and preference should be given to chloroform on account of its less irritating properties.

Being an advocate of an *early* operation in croup, and the condition of the patient in the first stages being favorable for the use of an anæsthetic, this is readily administered, and but a small quantity is required to produce unconsciousness, which state should be just reached; for if reflex action is wholly abolished, the surgeon loses the valuable aid of cough in notifying him of blood passing into the trachea, and in expelling it therefrom. In a word, an obtunding of the cutaneous sensibility is all that is required.

Sixth. The skin wound should be of sufficient length to permit of easy recognition of the underlying tissues, and for a proper dissection in reaching the windpipe.

Seventh. As much rapidity as is consistent with care and safety should be used in executing the operation.

Eighth. Make the operation as near bloodless as can be effected; therefore, lay aside the bistoury after the first incision, and, by means of the knife handle or director, scratch or tear a road to the trachea, staunching all oozing before incising the tracheal tube.

Ninth. The opening in the windpipe should be covered with a thin gauze, and a moist atmosphere with a moderately warm temperature maintained in the apartment.

Tenth. Most careful nursing by an experienced attendant, and frequent cleansing of the edges of the wound, or inside canula.

Eleventh. When the acute symptoms have subsided, make frequent tests of the laryngeal respiration, and remove the canula as soon as breathing can be carried on by the larynx. Hence, the rule should be, remove the canula at the earliest moment.

Twelfth. The canula should be always double; the tube revolving in the neck shield; of a short curve; beveled edges; medium length; and a diameter sufficiently large to fill but not distend the trachea.

Thirteenth. Advanced asphyxia, even where death has apparently taken place, should not deter the surgeon from operating.

Fourteenth. Marked attacks of dyspnoea, which are found to be unconnected with obstruction of the canula, require an early and thorough search for casts or membranous plugs below the opening.

Dr. A. C. Post writes on "Tracheotomy Without Tubes," endorsing this surgical procedure very strongly.

Other valuable papers on tracheotomy are also contained in this number. Such thorough work reflects great credit on American surgery and authorship.

THE MINERALS AND MINERAL LOCALITIES OF NORTH CAROLINA.

Being Chapter I of the Second Volume of the Geology of North Carolina. 1881. Raleigh: P. M. Halo and Edwards, Broughton & Co., State Printers and Binders. 1881. Pp. 122.

This is the most practical, and therefore the more acceptable to the public, of the several valuable geological reports made under State auspices. This volume is by F. A. Garth and W. C. Kerr. Since Dr. Garth's report was completed many new species have been added to the list. In preparing this report, Professor Kerr has described the minerals, the conditions in which they are found, and then gives a synopsis of them by counties. In all 178 species are catalogued and described, and "this is a greater number of species than has been discovered in any other State."

The attention of the outside world is being drawn to the practical value of the minerals in this State, and doubtless this publication will do very much in giving scientific authenticity to reports long in circulation.

Professor Kerr has worked long and patiently, in spite of the silly attacks made upon him from time to time. The public is always seeking for immediate results—profitable outcomes of scientific investigations—hardly dreaming of the great amount of careful study which must be given to a subject to insure accuracy. In fact it has become the fashion among politicians to decry anything they cannot understand, especially if it costs money.

North Carolina cannot afford to dampen the ardor of a single scientific student. We need a very great multiplication of them. They are the pioneers of great commercial enterprises. They should be respected, and trusted, and well paid. A State that practices parsimony in her dealings with her own scientific students, will surely lament the folly when it is too late.

We prize very greatly this addition to the great geological study of the State, and return our thanks to Professor Kerr for the good he is doing North Carolina.

A TREATISE ON THE PRINCIPLES AND PRACTICE OF MEDICINE ;
DESIGNED FOR THE USE OF PRACTITIONERS AND STUDENTS OF
MEDICINE. By AUSTIN FLINT, M. D., &c., &c. Fifth Edition.
Revised and largely Re-written. Philadelphia : Henry C. Lea's
Son & Co. 1881. Pp. 150.

This work has been a popular text-book since its first appearance. It has been made far more valuable to student and practitioner in this the fifth edition. Everywhere we find large and important additions.

"In making changes" the author says in his preface he "has not been influenced by any sense of obligation to maintain consistency of views with the previous editions of this treatise, or with other works which he has written. Whenever statements are found to vary from those made at a prior date, the simple explanation is that the latter, in the light of more recent reflection and enlarged knowledge, seem to him no longer tenable. He has endeavored to regard his own writings, in this point of view, divested of the partiality of authorship, and to subject them to as critical examination as if they were the writings of another."

This volume, as it now stands, may be considered a fair exponent of the science and art of medicine, more especially of the science

and art of diagnosis and pathology. To some of the readers of this volume it may appear that Dr. Flint does not place as much reliance in the reputed recent remedies as other late authors have shown; but he has been always a conservative therapist. In the times of the greatest incredulity of the profession as to the efficacy of remedial agents, Dr. Flint was a safe teacher, and the careful student will not recognize anything in this volume he will think old-fashioned. The rarest merit of all is exhibited in this performance of Dr. Flint, in that he has maintained a vigorous pursuit, and shown a broad knowledge of modern medicine in its best and truest sense. For it is not usual for a teacher, at an advanced age, to be willing to acknowledge, even when he has the intellectual vigor to do so, that the present status of the department in which he has been an acknowledged master for many years, is of sufficient importance to incorporate in his original work.

The medical library that cannot number Flint's *Practice of Medicine* among its treasures is barren indeed.

SANITARY AND STATISTICAL REPORT OF THE SURGEON-GENERAL
OF THE NAVY FOR THE YEAR 1879. Pp. 361.

We are sorry our space is not sufficient to review at length the contents of this volume. A thorough examination satisfies us that the medical department of the navy has had an infusion of new life.

We notice in Surgeon J. L. Gihon's report on the sanitary condition of the Naval Academy that he states Candidates are annually rejected for cardiac disturbances who have subsequently admitted the use of tobacco, and the annual physical examinations of cadets reveal a large number of irritable hearts ("tobacco hearts") among boys, who had no such trouble when they entered school. Among applicants for enlistment as apprentices in the navy, during the year 1879, ten in a thousand were rejected for functional lesions of the heart, indicating tobacco poisoning. "The most prominent cause of rejection," reports Dr. Magruder, Medical Examiner, "has been irritable heart, found most frequently in boys with abnormally developed sexual organs or who use tobacco to excess. In fact, I have met with no cases of this affection that could not be attributed to the use of tobacco or to masturbation."

The latter vice is itself the consequence of sexual erethism induced through its effects upon the nervous system by this narcotic, which smoked in the shape of cigarettes is a reputed aphrodisiac. The pernicious effect of tobacco on the generative function is authoritatively asserted by Acton, who declares "I am quite sure that excessive smokers, if very young, *never acquire*, and, if older, *rapidly lose their normal virile powers.*"

Finally, the antidotal effects of tobacco makes drinking of stimulating liquors the natural consequence of smoking. The lad who is encouraged to smoke tobacco is perforce taught to drink rum and the ingenuity he will exercise to gratify this implanted craving, despite regulations, will far exceed in persistence, because impelled by the imperious demand of the perverted function, that which he would primarily have exerted in conquering his natural repugnance for tobacco had it been the interdicted vice.

We are glad to see such an outspoken condemnation of the vice of smoking. It is just now among our young men and boys, a wide-spread evil. Its ill-effects are seen daily by physicians on their rounds, and it needs great firmness and good example on the part of the elders in the community to check it. A man or a woman can become besotted with tobacco, without suspecting it themselves; and even in those cases where it has not gone so far, it surely begets idleness and laziness.

The valuable tables, maps, and diagrams illustrating the meteorology and sanitary condition of naval stations, contained in this volume makes it a useful book of reference.

A MANUAL OF MEDICAL JURISPRUDENCE. By ALFRED SWAINE TAYLOR, M. D., F. R. S. Eighth American Edition from the Tenth London Edition. Edited by John J. Reese, M. D. With Illustrations on Wood. Philadelphia: Henry C. Lea's Son & Co. 1880. Pp. 933.

Taylor's Medical Jurisprudence in this its eighth edition, is the best work in the English language, on the same subject. Comparing this edition with the earlier editions, it will be seen how assiduously the author devoted himself to his work. Comparing it with other works on the same subject, and we hardly need name them, for they are familiar to our readers, none cover the entire

ground so authentically, and indeed none cover so much ground. The student who is limited in his selection to one volume on Medical Jurisprudence, cannot do better than to rely upon this.

Dr. Reese announces in his preface the death of the author, and congratulates the medico-legal student that he has had the good fortune to secure these valuable additions from the now departed master.

The publishers have issued this volume in excellent style in half-Russia, increasing the cost of the volume thereby very little.

A TREATISE ON BRIGHT'S DISEASE AND DIABETES, WITH ESPECIAL REFERENCE TO PATHOLOGY AND THERAPEUTICS. By JAMES TYSON, A. M., M. D., &c., &c. With Illustrations. INCLUDING A SECTION ON RETINITIS IN BRIGHT'S DISEASE. By WILLIAM F. NORRIS, A. M., M. D. Philadelphia: Lindsay & Blakiston. 1881. Pp. 312. Price \$3.50.

Notwithstanding the many valuable additions to the literature of Bright's disease and diabetes, lately made, this book is timely and of especial interest. The author wisely considers it necessary to describe the anatomy and histology of the kidney, in order to bring his volume up to the latest and best teaching on the subject.

The physiology of the secretion of urine is reviewed, the author giving it as his view of the nature of urinary secretion, that the water of the urine is filtered out by the Malpighian capsule, the condition to such filtration being supplied by increased blood-pressure which exists in the glomerulus. In this water may be dissolved some of the inorganic constituents of the urine, but the most important nitrogenous principles, the true effete poisonous matters which it is the office of the kidney to remove, are separated by the agency of the cloudy cells lining the convoluted tubules, the ascending limb of Henle's loop, and the intermediary segment of Schweigger-Seidel. From these cells they are pushed out into the lumen of the tube by the *vis a tergo* of additional secretion, and dissolved by the water which comes down from the Malpighian capsule, thus producing the urine, which is gathered up by the collecting and excreting tubes, by which it is emptied into the pelvis of the kidney at the papillæ.

The second section treats of albumen tests, and the sources of

the albumen of the urine, and the third section on tube casts and their pathological significance is very satisfactory.

The different forms of Bright's disease are treated in the following order: Acute parenchymatous inflammation, lardaceous (amyloid) disease of the kidney, interstitial nephritis, suppurative interstitial nephritis. A section is introduced on the retinitis of Bright's disease by Dr. Norris.

The part of the work devoted to diabetes is well and carefully written, bringing before the reader the latest and best theories and practical opinions on the subject.

The volume is well illustrated with clear wood-cuts and two colored lithographs.

THE METRIC SYSTEM IN MEDICINE. Containing an Account of the Metric System of Weights and Measures, Americanized and Simplified, a Comprehensive Dose Table and 300 Practical Illustrations of Metric Prescription Writing, Selected from Recipes in Actual Use in Hospital and Out-Door Practice. By OSCAR OLDBERG, Phar. D., Med. Purv. M. H. S., Professor Materia Medica, Nat. Coll. Phar., Member of the Decennial Com. on Revision of Pharmacopœia. Philadelphia: Presly Blakiston, 1012 Walnut Street. Price \$1.50.

Professor Oldberg gives the history of the introduction of the metric system into this country in his preface quoting Assistant Secretary Upton's words to the effect that the only legalized system of weights and measures in this country to-day, is the metric system. If this be so, then we are forced to believe that legal enactment is a much weaker force than we had taken it to be. Notwithstanding the legal enactment, the metric system stands to-day only as an accomplishment of chemists, but one rarely possessed by physicians and entirely ignored by retail merchants.

This little work is exceedingly useful, now that the confusion of the two systems makes it necessary. That it will entice many old dogs to learn the new tricks of metric prescription writing, we doubt. At any rate, Dr. Oldberg's habitual accuracy is an assurance of the reliability of the tables, and to those officers who are required to translate their apothecary's weight into metrics, it will be very welcome.

The words "dime," "cent" and "mill" have been utilized to express tenths, hundredths and thousandths, both of the gramme and fluigramme; i. e., the expression "dime" denotes 0.10 gm. (equal to $1\frac{1}{2}$ grain), "cent" for 0.01 gm. (equal to 1-6th grain), and "mill" for 0.001 gm. (equal to 1-64th grain).

A MANUAL OF THE PRACTICE OF MEDICINE. Designed for the Use of Students and the General Practitioner. By HENRY C. MOIR, M. D. New York: Steam Press of the Industrial School, H. O. A., 187 and 189 East 76th Street. 1881. 12mo. Pp. 453.

This little work is a syllabus of the practice of medicine and will be of use, or be harmful, according to the way in which it is used. Of all the manuals we have examined, this contains more systematic and condensed information than any of them.

The differential diagnosis between the five principal eruptive fevers, is especially useful. To students reviewing for examination we can commend this work.

The prescriptions contained in the last few pages of the work, are too much abbreviated to be safe, even if we admit such a collection is ever useful. Prescription writing should have for its foundation a good knowledge of therapeutics and pharmacy, and when done by rote, as practiced by some physicians, and as insinuated it is possible it may be done by this and other manuals, is sure to bring disrepute upon the physician sooner or later, by making him a routinist.

UNIVERSITY OF MARYLAND.

Dr. Eugene F. Cordell sends the following items:

Dr. I. Edmondson Atkinson, already favorably known to the profession, by his valuable contributions to periodical literature, especially in the field of Dermatology, has just been elected Professor of Pathology in this school. He retains the Chair of Clinical Dermatology previously held by him.

Professor Christopher Johnston, who recently resigned the Chair of Surgery, has been elected Emeritus Professor. His successor has not yet been announced.

CURRENT LITERATURE.

RADICAL CURE OF HERNIA.

Dr. W. H. Heath, Assistant Surgeon M. H. S., contributes to the *Buffalo Medical and Surgical Journal* his experience in the *Heatonian Method* for the Radical Cure of Hernia, from which we make the following extracts :

The pathology of it, according to the author, consists in developing by the action of the irritant, which if also an astringent, a tendinous irritation, causing a contraction of the fibrous tissues and rings, which the circular arrangements of fibres makes possible, and the formation of strongly plastic lymph. Recognizing that the fibrous structures and rings are the structures primarily and principally in fault, to these alone is the remedy addressed. The mild character of the irritant, the operation being subcutaneous, the parts so slightly vascular, being nourished by nutritive juices, are the reasons given for the irritation exceeding no further bounds, while the permanency of the effect produced is due to the interstitial and hyper-plastic changes and the disposition of fibrous tissues generally to recover slowly, analogy being drawn to the duration of changes in similar structures elsewhere, as around joints and the heart valves. The irritant used is the fluid extract of *Quercus Alba* prepared in vacuo, to which is added the Solid Extract in the proportion of 14 grains to half an ounce and a little morphia to lessen pain ; this is triturated with heat until a very perfect solution is obtained. The instrument with which the operation can most satisfactorily be done is of Dr. DeGarmo's device made by Tiemann & Co., N. Y., and described as stated in the *Medical Record*. It is a 20-m syringe, a screw-piston to gradually deposit its contents, and a trocar needle by which its point is guarded while in the inguinal canal. The same irritant in different proportion, the Solid Extract being reduced to the consistency of paste by the fluid, with a modified instrument for its introduction is also advised by the author, but more particularly to old and large herniæ, where the apertures are patulous and in those cases where the milder one does not have the desired effect, the paste being more easily handled and the irritating property more enduring.

The patient, whose bowels should be moved by oil the day previous, is to be placed in bed and the hernia and sac, if possible, reduced. The presence of the sac does not prevent a successful result, it merely diminishes the effect. The operation consists in locating the exact position of the external abdominal ring, by invaginating a finger of the right hand in the scrotum and fixing its position on the exterior by a finger of the other hand, which is made to press directly down upon it, or, if possible, in it. The instrument, already prepared, is carried with a sharp thrust quickly through the integument, just passing the external pillar, the needle then guarded, is carried on into the canal; care being exercised not to injure the cord, or penetrate into the peritoneal cavity. The position of the beak of the instrument should at this stage be confirmed by a finger again invaginated through the scrotum, and the irritant deposited as it is withdrawn, all the fibrous strictures being wet. A bandage and compress, previously applied, are then carefully adjusted into position and so arranged as to press with considerable firmness downwards and upwards in the direction of the canal, with somewhat less pressure over the internal than the external ring. This procedure is not accompanied by much pain, and that which follows is of short duration and but moderate intensity; tenderness exists in a degree for some little time, but not enough to require the compress to be removed, or to produce any inconvenience. The recumbent position for a week or so, and no movement from the bowels, are to be insisted on, for the protrusion must not be allowed to descend after its reduction, and the irritant deposited. The bandage should be worn or a light truss applied for a month or more, as a precaution, but after that it may be discontinued and the case considered cured. In a certain number of cases the operation has to be repeated, more especially where the apertures are large and patulous, or the cause has been violence in tearing the fibrous rings, and in congenital hernia where they apparently are deficient in fibrous structure.

Simple as all this appears, it requires considerable care and dexterity; the cord which must be pushed aside, may be displaced and in part overlie the sac, which may itself be irreducible. The direction of the canal and position of internal ring changed, the possibility of transfixing one of the pillars, wounding the cord, or en-

tering the abdominal cavity, are all to be remembered and avoided. The attention to every detail in operating, adjusting the compress and bandage, and the after-care are so important as to largely determine the result in most cases. An hour or so, therefore, in the dissecting room, with a long needle, would not be mis-spent, but would aid to familiarize a beginner with the points most important to find, or as far as possible, avoid.

This method I have resorted to twelve times with one failure (I believe due entirely to a nurse's carelessness) and one accident where I deposited the irritant in the areola tissue of the cord, which from pressure of the hernia had been spread out and displaced, almost beyond recognition. Nine of the cases I consider permanently cured, and two are yet under observation in my wards. All the cases were of the oblique reducible inguinal variety, eight of 5 years standing, one of 17 years, one of 12 years, and two over 10 years.

In no case did I observe a single bad symptom, elevation of temperature or pulse-rate, and but little, if any, of what may properly be termed suffering, and with the exception mentioned every case left in my hands, after keeping them as long as I could, apparently cured. I say apparently cured because the standing argument against the permanency of the result at once is raised, and I cannot say positively, beyond preadventure, they are permanently cured, for they are beyond my observation now. Two of the men I had the good fortune to see and examine some six months after, and in both the inguinal canal was closed perfectly, and the protrusion had never appeared since leaving the hospital. One of them had subjected his case to a pretty severe test, having worked as coal heaver on a Southern steamer ever since. I do not recall what kind of work the other had been engaged in, but he was an ordinary sailor, I do not doubt the radical care was strongly tested.

A *Daily Edition* of the *Southern Clinic* will be issued during the meeting of the American Medical Association in Richmond, Va. This will be for *gratuitous distribution* in honor of the occasion.

C. A. BRYCE.

TREATMENT OF ASPHYXIA NEONATORUM.

At a recent meeting of the New York Obstetrical Society, Dr. Rodenstein showed a double bellows with a double valve, made by Mr. Ford, of Messrs. Caswell, Hazard & Co., after the pattern of one that had been sent here from Freiburg, Germany, by its inventor, Dr. Dipp. It was intended for insufflation of the air-passages in cases of asphyxia neonatorum.

Dr. Garrigues alluded to the danger of using too much force where instrumental insufflation was employed.

Dr. Polk remarked upon the disposition of writers at the present time to avoid referring to catheterization of the trachea. He had recently seen a pointed illustration of its value in the case of a child with laryngismus stridulus that had been brought to his clinic. While examining the child, he drew the tongue forward, and a typical spasm at once took place. The child immediately appeared to be dead. Various methods of resuscitation having been used in vain, a No. 8 silver catheter was passed into the trachea, and the lungs were inflated through it by intermittent compression of the thorax. The cyanotic hue of the child's face at once disappeared, even before it began to breathe, and in half an hour he was breathing well. The metallic catheter was used after failure to pass a soft one.

Dr. Ward regarded faradization as the most efficient means of resuscitation in cases of asphyxia.

Dr. Polk asked why, if this were true, it was not more serviceable in opium poisoning. Admitting its efficiency, moreover, faradization was not always readily available.

Dr. Ward remembered a case in which it was necessary to send from the vicinity of the East River to Dr. Thomas's house in Fifth Avenue to get a battery, and yet its use proved efficient.

Dr. Polk believed that whatever good was accomplished by faradization in such cases was the result of mere stimulation of the skin, for it was not easy to act upon the phrenic nerve alone. Consequently, he was disposed to class the remedy with the indirect rather than with the direct means. Catheterization was a direct means.

Dr. Ward thought that, in the case he had referred to, the action was certainly something more than surface stimulation.

Dr. T. A. Emmet asked if irritation upon the posterior wall of the trachea would not of itself tend to excite respiration. In regard to artificial respiration, usually it was not kept up long enough. He referred to a case in which, after performing tracheotomy, he had continued it for five hours and more before respiration was fully established.

Dr. Polk remarked that, as concerned stimulation by the point of the catheter, in his case there were no respiratory movements until after the cyanosis had begun to disappear, as the result of aeration by the air that entered through the catheter.

Dr. Mundé had often known injury produced by too forcible insufflation. The bellows shown by Dr. Rodenstein would be quite as likely to inflate the stomach as the lungs. With faradization he had succeeded after three hours. The electrodes should be applied, one over the phrenic nerve, and the other under the diaphragm, and the shocks should not be too rapid.

Dr. Garrigues regarded insufflation with the catheter as one of the most efficient means of resuscitation. It was the prevailing method in Copenhagen. He had kept up two hours and a half before a gasp took place. The introduction of a flexible English catheter was easy, if the epiglottis were lifted up with the finger. Opium poisoning was not quite comparable with this sort of asphyxia. It was a question if faradization acted through the phrenic nerve or directly upon the diaphragm.

Dr. Mackenzie asked about the effect of faradization upon the heart. In a recent case of chloroform poisoning, two well-known surgeons had declined to use it, as likely to disorder the action of the heart, and not by any means certain to excite the diaphragm.

Dr. Polk believed that external faradization could not affect the heart.

Dr. Beverley Cole, of San Francisco (present by invitation), agreed in a measure with Dr. Polk as to the action of faradization as a surface stimulant. He had never had any success with insufflation, and had been surprised at what had now been said of it. What reason was there, he asked, in filling the lungs of an asphyxiated person with air that had already been robbed of its oxygen and laden with carbonic acid in one's own lungs?

Dr. Polk replied that the air which came first in expiration still contained considerable oxygen—enough for the purpose.

Dr. Foster added that air could be taken merely into the mouth, distending the cheeks, and then blown out again quite rich in oxygen, having never entered the lungs.

Dr. Garrigues thought this an important detail, as, by using the cheeks along, there would be no danger of exerting too much force.

Dr. Rodenstein remarked that the bellows should be used with great gentleness, and with a catheter. In one instance he had succeeded with hypodermic injections of brandy after an hour's vain trial of other measures, including insufflation ; but the child died in convulsions within twenty-four hours.—*New York Medical Journal*, April, 1881.

DELIRIUM FOLLOWING THE TREATMENT OF ACUTE RHEUMATISM BY SALICYLIC ACID.

It has been observed that cases of acute rheumatism treated by salicylic acid have been followed by delirium. Dr. Bastian in the report of six cases treated in this way and accompanied by delirium, gave as his opinion that Dr. Murchison was probably wrong in attributing these symptoms to uræmia. Dr. Acland believes that when the delirium is the result of the salicylic acid treatment, and not a natural sequence of the disease, uræmia may play an active part in its causation. As a rule, the treatment, according to Dr. Acland, was followed by a decline in the temperature. The decline in the temperature was generally coincident with or followed by a marked diminution in the excretion of nitrogen, which except in very minute quantities, is wholly excreted as urea. The lowering of the temperature, diminution of pain, and lessened excretion of urea, were nearly coincident.

Black-Gum Root for Tents.—It has been at last discovered in Germany, the country whence good American doctors are now in the habit of getting their extraordinary medical knowledge, that black-gum root makes the best tents.

While the North Carolina doctor is only contented with smoothly finished laminaria and sponge tents from the expensive instrument-maker, the German doctor sends to America for black-gum root.

SYMPTOMS OF CEREBRAL HYPERÆMIA AFTER LARGE DOSES OF SALICYLIC ACID.

By DR. APOLANT, Berlin.

It is known that after large doses of salicylic acid, symptoms of cerebral hyperæmia as presented by ringing in the ear and vibrations before the eyes, frequently make their appearance. In one case I saw instead of, or in connection with these symptoms, insane ideas become developed, which, it is true, could be explained by the illusive hearing, and which threw light upon the subject of the development of hallucinations and confirm the views of Stricker on this point.

The patient, 36 years of age, had an attack of acute articular rheumatism, and took for seven days (90 grs.) 6.0 of salicylate of soda daily, making altogether 42 grm. (one and one-fifth ozs). On the fifth day he complained of slight deafness, on account of which I ordered the medicine to be taken at longer intervals, without, however, discontinuing it entirely. On the sixth day, the patient, who had been free from fever since the third day, began scolding in such a manner that his wife, who could not understand this symptom, judging by his former conduct, thought he had become suddenly insane. He had, as he said afterwards, hallucinations of seeing people; lighted a candle to recognize them better, threatening them with the police, etc. As after the discontinuance of the salicylate of soda, the symptoms did not return, and as they had never appeared before, it must be assumed that they were caused solely by the drug. This had produced a cerebral hyperæmia, and caused an irritation, among other parts, of those which govern ideation, sufficiently to affect volition.—*Berliner klin. Wochenschr.* No. 6, 1881.—*International Journal of Medicine and Surgery.*

THE AMERICAN JOURNAL OF PHARMACY.—This sterling old Journal continues to be exceedingly valuable to apothecaries and physicians. With the March number is issued a decennial general index, for the year 1871 to 1880, inclusive. This index is furnished to all regular subscribers without extra charge.

BETONY: AN OLD BEMEDY REVIVED.

Dr. Wm. Murrell commenting on an editorial from the *British Medical Journal*, p. 212, "Botany as a Guide to Therapeutics" says:

Although described as a new remedy, it is in reality an old remedy revived, for it has been used in medicine from time immemorial. "Sell your coat and buy betony" is a proverb expressing the high estimation in which it was held by our ancestors. There is another saying—Spanish or Italian in origin, I think—"as many virtues as betony". Turning to Cockayne's *Leechdoms*, I find the following account of betony, translated from the original Saxon MS.

"This wort, which is named betony, is produced in meadows, and on clean downlands, and in shady places; it is good whether for the man's soul or for his body; it shields him against monstrous nocturnal visitors and against frightful visions and dreams; and the wort is very wholesome, and thus thou shalt gather it, in the month of August without (*use of*) iron; and when thou have gathered it, shake the mold, till nought of it cleave thereon, and then dry it in the shade very thoroughly, and with its roots altogether reduce it to dust; then use it, and taste of it when thou needest."

It must have been highly esteemed in Saxon medical philosophy, for it is recommended for no fewer than twenty-eight different diseases, of which the following are examples: "If a man's head be broken; for sore of eyes; for sore of ears; in case a man's inwards be too costive; in case blood gush up through a man's mouth; in case a pustule is going to settle on a man; in case a man be out of health or feel nausea; for the hot fever, for foot-disease."

Some of the directions given for the use of the drug are very quaint; for example: "For sore of side take of the same wort by weight of three drachms, seethe in old wine, and rub down *and add* thereto twenty-seven peppercorns; drink of it then at night fasting, three cups full." Again: for sore of womb (belly) take of the same wort by three drachms' weight; boil in water; then give it him warm to drink, then will the sore of the inwards be settling (abating) and growing lithe so that soon it will be no loath (annoyance)." It is added: "If a man's inwards be too fast (costive), let him taste this same wort in warm water fasting; then the man will be hole in three nights' space." In early times, betony seems to

have had a reputation for warding off intoxication ; for we are told : “If a man will not be drunk, let him take erst (i. e., before he begins to drink), and taste of betony the wort”. And in the Stockholm MS. these lines occur :

“ Who so for trauayle, or for swynk
Use early or late for to drynke,
Use bettoyn fastande i fay (fasting in faith),
He schalle not be dronken ys ilke day.”

It would appear that, by the old Iberian physicians, betony was employed in cases of insanity, mania, and even hydrophobia. In addition to its medical virtues, it was formerly supposed to be endowed with great power against evil spirits ; or, as Burton expresses it. “driving away devils and despair”. On this account, it was carefully planted in churchyards, and hung round the neck as an amulet or charm, sanctifying, as Erasmus says, “those that carried it about them”, and being also “good against fearful visions.” Antonius Musa, the physician to Augustus Cæsar, declares it to be a good preservative against witchcraft ; but it would appear only to possess these supernatural qualities under certain conditions, on which account it was to be gathered at stated periods.

“ Who so betonye on him bere
Fro wykked sperytis it will hy were (guard)
In ye monyth of August, on all wyse (always)
It muste be gaderyd or (ere) sone ryse.”

THE NATURE OF THE ACTION OF BELLADONNA ON THE SYSTEM.

The *modus operandi* of belladonna in its action upon the human system, as stated by Professor T. Wharton Jones, Professor of Ophthalmic Medicine and Surgery in University College, London, in a communication upon this subject to the *American Journal of the Medical Sciences* for April, 1881, is essentially different from the views generally held, which in the author's opinion are for the most part fundamentally erroneous. Taking the familiar experiment of dropping atropia upon the web of a frog's foot and demonstrating the fact that the venous stasis resulting is due to constriction of the

small arteries from contraction of their muscular coat, as is evidenced by the increase in thickness of their walls, which retards the flow of blood and directly causes congestion, he concludes that the phenomena of belladonna-poisoning stand in this order: 1st. Constriction of the small arteries by stimulation of their muscular coat; 2d. The establishment of venous congestion in the brain and spinal cord; 3d. The cerebral and muscular disturbance arising from the venous congestion in the brain and spinal cord.

In considering the mydriatic effect of atropia upon the pupil the elasticity of the iris is a factor which has been generally overlooked, thus with the two sets of muscles, the circular and antagonistic radiating fibres, there is a certain amount of physical elasticity, which requires to be taken into consideration, without a proper estimate of which no correct analysis of the motions of the pupil can be made. Dr. Jones claims that belladonna operates by directly exciting to action the radiating muscular fibres composing the *dilator pupillæ*, and not by paralyzing the sphincter and giving scope to unrestrained action of the dilator. This latter view, which physiologists continue to teach, is controverted by the fact that in paralysis of the motor oculi, the pupil is not widely dilated, but is restrained by the elasticity of the iris; it may, however, still be dilated by atropia. When the dilator and sphincter are both inactive, as they are after death, the natural resiliency of the iris keeps the pupil at a medium degree of width.

Calabar bean, although it exercises apparently a contrary effect upon the pupil, is not a real antagonist to atropia, for it acts upon the sphincter papillæ; in an analogous way it relieves congestion by stimulating the muscular coat of the venous radicles, but has no effect upon the arterioles.

Fashions in Remedies.—While the addition of dialyzed iron to the new U. S. Ph. has been negatived by a decided vote, it has just been added to the Hungarian Pharmacopœia.

Let there be a large meeting of the State Medical Society. The Secretary writes that most of the railroads have agreed to give reduced rates to members and delegates.

PILOCARPIN IN ALBUMINOUS NEPHRITIS.

Langlet, of Rheims, (*La France Medicale*, 1881, p. 150), has treated a case of the albuminuria of pregnancy, successfully by jaborandi. In this case the drug acted as a diuretic, even bringing on hæmaturia. Cantieri has obtained good results in parenchymatous and interstitial nephritis. The infusion of jaborandi may be prescribed in these cases in the dose of one drachm of the leaves infused for fifteen minutes in half a pint of boiling water. As much as a drachm and a half may be used in some cases; but in infants no more than thirty grains should be given. Nitrate of pilocarpin in doses of one-sixth to three-quarters of a grain by hypodermic injection is useful in chronic kidney troubles, in serous effusions, and in œdema of the lower extremities. Muriate of pilocarpin is to be used in still smaller doses. These salts may be dissolved in distilled water or in cherry-laurel water. As pilocarpin reduces arterial tension, the existence of cardiac asthenia is a marked contra-indication to its employment, even although the arterial tension may be reduced and the cardiac contractions insufficient.

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The Absorption and Elimination of Quinine.—Experiments of Professor Giulio (Giornale di Medicina Militare, October, 1880; from Gazzetta degli Ospitale, No. 17, 1880)—Conclusions.

Quinine certainly not eliminated by the saliva, nor by perspiration.

Not absorbed by the skin through friction, even under the most favorable circumstances.

Appears in the urine thirteen to fifteen minutes after a hypodermic injection of it.

Appears in the urine fifteen to seventeen minutes after administration by the mouth, digestion being good. If latter not so, a proportional delay.

Appears in urine twenty to twenty-five minutes after an enteroclysis, if injection retained for any length of time, and thirty to forty minutes after an ordinary enema, if not immediately expelled.

Variation in the Strength of Liquid Opium Preparations.—In a paper read before the Toronto Medical Society (*Am. Jour. Pharmacy*) by Mr. E. B. Shuttleworth, attention is called to variation in the strength of liquid preparations of opium.

He says that although the Pharmacopœia (speaking of the B. Ph., but it applies to the U. S. Ph.) directs the *dry opium* to be used, the tincture is almost invariably made of the moist opium of commerce, which contains from 10 to 20 per cent. of water. The variation in morphia strength of laudanum on this side the Atlantic amounts to as much as 300 per cent.

We know that in the Southern States, that the principal dealers of general merchandize sell laudanum of very inferior strength, to a large extent. That even reputable apothecaries, careful of the character of the tinctures dispensed by them, do not scruple to make an inferior laudanum for the country trade. This matter is a proper subject of investigation by the State Board of Health.

Mr. Shuttleworth gives the following as the strength of Batley's sedative :

Liquor opii sedativus (Batley) contains 1 grain *dry opium* in 11 minims.

Tinct. opii deodorata (U. S. P.) contains 1 grain *dry opium* in 13 minims.

READING NOTICES. OUR ADVERTISERS.

W. R. Warner & Co. excel not only in the method of sugar coating, but in the quality of the ingredients of their pills.

Parke Davis & Co., have introduced many valuable remedies to the profession in the past few years, and we cannot recall a single instance in which their statements as to an article has not been moderate, and far below the actual value of it.

Read the certificates of the value of *Quinquina*. Our readers can rely upon the assay of it given by Messrs. Charles T. White & Co. We are glad to know that its introduction has been of much real benefit.

Powell's Combined Beef, Cod-Liver Oil and Pepsin.—This preparation is growing in favor. As far as our experience goes it agrees with the weakest stomach, and affords a large amount of nutrition suitable to patients afflicted with wasting diseases.

All-Healing Springs Company have undertaken to afford, to invalids who are well acquainted with the reputed value of these old springs, an opportunity of reaping their full benefits. Doubtless many invalids will be attracted to them, and the management is in the hands of a safe and reputable physician.

OBITUARY.

DEATH OF PROFESSOR R. O. COWLING.

His tongue is still; his voice is hushed in death; his facile pen is laid away forever; we shall see his majestic form never more.

Richard Oswald Cowling, A. M., M. D., Professor of the Principles and Practice of Surgery in the Medical Department of the University of Louisville, founder and editor of the Louisville *Medical News*, resigned the burdens of life, and took his departure to that bourne from whence no traveler returns, at 12 o'clock M., April 2, 1881.

For two weeks he had suffered a moderate attack of rheumatism, but was thought to be rapidly approaching convalescence, when, suddenly the Angel of Death, hovered over him, and blotted out the brightest luminary of Louisville's brilliant galaxy of surgeons. Professor Cowling was born near Georgetown, S. C., on the 9th of April, 1839. He received a liberal education in the schools of Louisville, and graduated at Trinity College, Hartford, Conn., as a Bachelor of Arts, in 1861, and received the master's degree in 1865. He studied law in New York, and afterwards undertook the business of civil engineering. He soon grew tired of this, and having a great fondness for the medical profession in general, and for Professor Gross, of Philadelphia, in particular, he entered Jefferson College, where, in 1867, he received the degree of Doctor in Medicine. He at once came to Louisville to practice his profession, and in the following September was wedded to Miss Mary, the bright and accomplished daughter of Colonel Samuel B. Churchill, a gentleman of great popularity and wealth.

In 1868 Dr. Cowling was appointed Demonstrator of Anatomy in the University of Louisville, and in 1870 he became adjunct Professor of Surgery, in 1873 Professor of Surgical Pathology and Operative Surgery, afterwards Professor of the Principles and Practice of Surgery. In 1867 he was appointed Surgeon General of the Kentucky State militia on the peace footing. In 1876 he founded the Louisville *Medical News*, and soon after associated Dr William H. Galt in the editorial management.

About that time (1876-7) much complaint arose throughout the country against the policy and management of the Louisville Medical College, and the Nashville Medical College, on account of the charge that these two institutions had been holding two graduating terms in one year, and on account of other matters not necessary to mention. The Louisville *Medical News*, with great vigor, began a series of the most severe criticisms of these schools. The attention of the whole country was so earnestly engaged, that the institutions were soon obliged to abandon the objectionable features in their course. During this period the *News* attained great popularity, and its chief editor became famous as the most witty and humorous, as well as the most caustic and vivacious writer in the medical press of this country. Next to Professor Wm. K. Bowling, of Nashville, Dr. Cowling was the most forcible and brilliant medical journalist in the United States. He made many valuable contributions to surgery during his brief but brilliant career. His manilla-paper dressing for fractures was his first note-worthy device, an account of which appeared, for the first time, in the *American Practitioner* for ———, 18—. His lectures on *Death, Transfusion of Blood, Colotomy*, and the *Aphorisms on Fracture*, are among the best efforts of his life, and will likely live long after his personal associates shall have passed into the valley of death.

Shortly after the inauguration of Governor Blackburn, he appointed Dr. R. H. Gale to the superintendency of the Anchorage Asylum for the Insane, and Dr. Cowling immediately succeeded Dr. Gale as surgeon to the Louisville & Cincinnati Short Line railroad, a position he filled with marked ability to the time of his last illness.

Professor Cowling was above six feet high, about 230 lbs. in weight, and one of the finest specimens of physical manhood one could wish to see. He had a noble and generous nature, was genial, witty and fascinating. He had a glorious voice, and a grace of oratory surpassed by no man in the profession. He was, probably, the most popular man of his age in Kentucky, and his loss will be lamented wherever the face of civilized man is seen for many a day to come.—*Louisville Medical Herald*.

BOOKS AND PAMPHLETS RECEIVED.

The Treatment of Scrofulous Diseases of the Skin. By John V. Shoemaker, A. M., M. D. Pp. 8.

Croup and Tracheotomy in the Southern States. By William Mastin, M. D., of Mobile, Ala. Reprint. Pp. 10.

The German Pharmacopœia. Translated by C. L. Lochman with an Appendix. Philadelphia, Pa. David Edder & Co. 1870. Pp. 384.

Proceedings of the Louisiana State Medical Association at its Third Meeting held in the City of New Orleans, March 31st, April 1st and 2d, 1880. Pp. 111.

Report of the Superintendent of the North Carolina Insane Asylum, to the Governor and Board of Directors, for the Year Ending December 31st, 1880. Pp. 32.

A Statistical Report of Two Hundred and Fifty-Two Cases of Inebriety treated at the Industrial Home. Fort Hamilton, L. I. By Lewis D. Mason, M. D. Pp. 25.

Annual Report of the Board of Health of the State of Louisiana. To the General Assembly for the Year 1880. Pp. 354. J. S. Rivers, 74 Camp Street, New Orleans.

Extirpation of Rectum, without Destroying the Sphincter Muscle. By William A. Byrd, M. D., of Quincy, Illinois. Reprint. Medical and Surgical Reporter. Pp. 4.

Communication sur le Béri-Béri, par le Docteur F. J. van Leent, Médecin-en-Chef de la Marine Néerlandaise. Pp. 8. Göteborgs Handelstidnings Akebolags Tryckeri. 1880.

Strangulated Veins of the Uterus, and Other Papers. Gynæcological and Surgical. By Thomas H. Buckler, M. D., of Baltimore. Reprint Boston Medical and Surgical Journal. 1881. Pp. 72.

Diagrams Illustrating a Paper on the Study of the Causes of Sickness and Deaths. Read at the Sanitary Convention at Battle Creek, Mich. March 29th, 1881. By Henry B. Baker, M. D. Pp. 15.

Laparotomy and Colotomy with Formation of Artificial Anus, for Obstruction of Intestines. By William A. Byrd, M. D. Illinois. Reprint. Transactions American Medical Association. 1880. Pp. 8.

Lectures Upon Diseases of the Rectum and Surgery of the Lower Bowel. Delivered at the Bellevue Hospital Medical College. By Wm. H. Van Buren, M. D., LL. D. New York: D. Appleton & Co. Pp. 412. Price \$3.00.

A Treatise on Bright's Disease and Diabetes. With Especial Reference to Pathology and Therapeutics. By James Tyson, A. M., M. D., &c., &c. With Illustrations. Philadelphia: Lindsay & Blakiston. 1881. Pp. 312. Price \$3.50.

The Metric System in Medicine. Containing an Account of the Metric System of Weights and Measures, Americanized and Simplified, a Comprehensive Dose Table and 300 Practical Illustrations of Metric Prescription Writing, Selected from Recipes in Actual Use in Hospital and Out-Door Practice. By Oscar Oldberg, Phar. D., Med. Purv. M. H. S., Professor Materia Medica, Nat. Coll. Phar., Member of the Decennial Com. on Revision of Pharmacopœia. Philadelphia: Presly Blakiston, 1012 Walnut Street. Price \$1.50.

NORTH CAROLINA

MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., EDITOR.

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See Advertisement of PARKE, DAVIS & CO., on next page.
" " " SEABURY & JOHNSON, 3d page Cover.

THE RELATION OF PHARMACY TO MEDICINE.

NEW YORK, April 15th.

To the College and Clinical Record:

The relation of the drug trade to the medical profession is one of the questions of the day, and any new thing in reference to this subject is, therefore, of interest. Especially is this so during the present transition state; and, when a move in the direction of a higher standard of pharmacy is taken, it becomes of importance as well. I therefore take the liberty of sending you the following as a communication to your interesting journal, hoping that similar communications may be received by you from other pharmacists of like mind, and that the result thus set may be of influence in settling the much-vexed question at issue.

I herewith enclose the business platform adopted by a firm of well known manufacturing pharmacists in defence of the position which they occupy in relation to the profession.

Very respectfully yours,

F. E. STEWART

To the Medical Profession:

GENTLEMEN—We respectfully beg leave to call your attention to the following circular, which explains the relations which we occupy to the profession as manufacturers and dealers in pharmaceutical preparations:

Our business consists in the choice, preservation, preparation and combination of medicines. We are merchants, in that we buy and sell; manufacturers, in that we deal in our own products. On a trade basis only do we present ourselves, and to the rules of trade do we conform.

Drugs are tools in the hands of the physician, as surgical instruments in the hands of the surgeon. The knowledge of knife making does not qualify for the use of the knife, neither does knowledge of drugs, without a knowledge of disease, justify their use in the treatment of the sick. We do not, therefore, attempt to usurp the prerogatives of the physician by advertising cures for the sick, or by proclaiming ourselves original investigators in therapeutics.

We practice pharmacy, not on a professional but on a trade basis. For this reason we do not write works on pharmacy, or make known our trade secrets for the benefit of our competitors. We invent new processes and machinery, and exercise exclusive control over them; but we do not patent drugs, or combinations of drugs, for these we do not look upon as proper objects for patent; neither do we patent forms of medicinal preparations, or seek to gain control of the same by secret formulæ. An exclusive right to the sale of a drug, or a combination of drugs, is injurious to trade, as it prevents legitimate competition, which is the life of trade. It is also injurious to the consumer, as it enhances price without a just equivalent. It has a tendency to deter from the production of high quality, also, and it enables unscrupulous manufacturers to create an artificial demand by advertising fictitious values.

The only trade mark which we possess is our name and reputation, and it is of value to us to the extent that we make it so by business enterprise and integrity. The trade-mark system, as at present constituted, is no guarantee whatever as to the quality of manufacture, and, therefore, affords not a protection to the profession and the public.

Our relations to the war waged at the present time upon "trade mark pharmaceuticals" have been entirely under the leadership and direction of Dr. F. E. Stewart, of New York City, while Dr. Stewart has appeared as the champion of the medical profession and legitimate pharmacy, as well as in the interest of trade, our action has been taken from a trade basis purely.

New Drugs.—It has always been our desire to promote the advance of scientific progress, recognizing that trade, in every department, is directly dependent upon increase in knowledge. Though not original investigators in therapeutics ourselves, that being outside the proper province of trade, we do all in our power to favor therapeutical investigation. For this reason we take pains to secure new drugs, and all information possible concerning them, for the purpose of presenting the same to the profession for scientific examination. From the great variety presented to our notice by trade, we select a few, which we are led to believe are of sufficient worth to warrant our action from a therapeutical point of view, and after first submitting them to test, that we determine more definitely their value before risking our capital, present them to the profession for trial; these trials we guarantee to publish, good, bad or indifferent, and if we have made an error in judgment in our selection of the drug, the loss is ours. If, on the contrary, the drug proves to be a valuable one, we have added to scientific knowledge, and thus conferred a benefit upon humanity, the medical profession, and also upon the trade.

Literature.—Practical medicine is largely empirical, and is likely to remain so, at least for the present. Physiology and pathology throw greater light upon the action of drugs in health and disease. The literature of therapeutics is, therefore, in a great measure, but the history of inconclusive experimentation. In the study of the literature pertaining to the action of drugs, three things should be taken into account. First, the ability and reliability of the experimenter; second, the number and number of experiments sufficient for verification; third, the results of the well observed and substantiated experiments. The unsupported testimony of the most careful and conscientious scientific investigator cannot be accepted as conclusive evidence; but the accumulated results of the extended experience of many competent observers is the only safe criterion to guide the physician in the treatment of the sick. If the profession had waited for an accumulation of this kind of knowledge, before employing new drugs, the properties of rhubarb, cinchona and opium would never have been known. It should be the purpose, therefore, of trade as well as science, to be in her power to facilitate experimentation for the purpose of clearing up all representative questions regarding new drugs, and coming it, as far as possible, into a definite scientific literature.

NORTH CAROLINA MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., Editor.

Number 5. Wilmington, May, 1881. Vol. 7.

ORIGINAL COMMUNICATIONS:

MISTLETOE, ITS PHYSIOLOGICAL ACTION AND SOME OF ITS CLINICAL APPLICATIONS.

By R. LEE PAYNE, JR., M. D., Lexington, N. C.

Cæsar and Pliny who have left us the best record of those powerful and—for the age in which they lived—most learned men, the ancient order of Druids, both tell us in how great reverence the mistletoe was held by this mighty priesthood. Regarding it as the most sacred thing in nature, they showed their reverence by giving it a place of prominence in all their mystic rites of worship and no hand profane dared touch the sacred plant, which could only be severed from the bough on which it grew by a golden knife held in the consecrated hands of a priest, by sacrifice, and many holy observances prepared for this pious duty.

As the world grows older, however, it becomes ever more daring in profanation and in the lapse of time the sacred plant of the Druids came only to be remembered in the good old English and German custom which allowed the young men the sweet privilege of kissing the maiden who might be caught standing beneath the

mistletoe bough at Christmas tide, and still more profane have we grown in this nineteenth century, for now from the berry of the mistletoe, is prepared that treacherous stuff which brings an end to so many innocent lives—birdlime.

But enough of this. We come not to write of these things for we trust that we will do more for humanity than ever maiden kiss or Druid rite could accomplish by calling the attention of the profession to the virtues of this parasite.

Mistletoe, the *viscum album* of Linnaeus, the *viscum flavesces* of Pursh or *Phoradendron* of Nuttall, is a small, parasitic evergreen shrub of the natural order Loranthaceæ and grows chiefly upon deciduous leaved trees. The *viscum album* is indigenous to Europe; the *phoradendron flavesces* is an American species, growing mostly on the elm, oak, locust, black-gum and persimmon tree, its habitat being in the Southern States extending northward as far as New Jersey and westward to the Mississippi Valley. The leaves of the *viscum album* are lanceolate or spatulate, obtuse and entire; those of the *phoradendron flavesces* are obovate or oval, fleshy. Both plants are brittle of a yellowish-green color, much branched and bearing a flower monœcious and in clusters, and the fruit, a berry, small, white and waxy looking. Mistletoe has been analyzed by Gaspard, Funcke, Winckler, Macaire and Reinsch who find it to contain mucilage, sugar, an odorous principle, a fixed oil, tannin, (in traces) a resin and various salts. It also contains viscin or birdlime, in small quantities, but this seems to be largely a product of fermentation.

Mistletoe was formerly used by European physicians as a remedy in hysteria and epilepsy, but Stillé and Maisch, with customary dogmatism, in the *National Dispensatory*, declare that as a remedy it has now become obsolete and further that its action is as “uncertain as its virtues are doubtful.” In the year 1851, Dr. Turnipseed, of South Carolina, called attention to the ecobolic action of a decoction of mistletoe, but little attention, however, was paid to the declaration. In the year 1878, Dr. Long (*Louisville Medical News*) published an article in which he speaks highly of the oxytotic virtues of the mistletoe, claiming it to be far superior to ergot:

“1st. Because it acts with more certainty and promptness.

“2d. That instead of producing a continuous or tonic contrac-

tion, as does ergot, it stimulates the uterus to contractions that are natural with regular intervals of rest. Consequently it can be used in any stage of labor and in primiparæ where ergot is inadmissible.

“3d. It can always be procured fresh, does not deteriorate by keeping, and is easily prepared.”

Cases have also been recorded by European authorities, in which children, after eating of the berries, were seized with vomiting, great thirst, tenesmus, bloody and mucus stools and in one instance collapse and death resulted. Further than the gastro-enteric irritation which the symptoms in these cases indicate, nothing has been published throwing any light upon the physiological action of mistletoe and with a view to determining whether or not it be possessed of *any* virtue or whether the oblivion into which the National Dispensatory has consigned it be deserved, the writer has made a series of experiments on animals the results of which he now submits to the profession, together with a brief report of some clinical uses to which he has applied the drug in accordance with the conclusions which have been therefrom deduced.

The fluid extract mistletoe used in these experiments was prepared by myself, by exhausting the strength of the drug with dilute alcohol after the manner directed by the U. S. Pharmacopœia for the preparation of fluid extracts, and then evaporating the product over a water bath until each minim of extract represented the strength of two grains of the drug, thus being able to use smaller doses and driving off all the alcohol which might have marred the results.

EXPERIMENT I.

9:25 A. M. A small, active frog was injected with fl. ext. mistletoe, M. x.

9:35. Frog begins to gasp, frequently making motions, striking sides of its head and moving its extremities quite actively.

9:40. Became rather dull and now remains quiescent in whatever position placed. Paresis most marked in front extremities.

9:45. A tendency now to extension of limbs with more or less rigidity.

9:50. On pinching legs, no movement results; no movement from contact of acetic acid with foot; *slight* voluntary movements.

9:55. Pupils dilated; sensibility of cornea abolished; some fibrillary contraction of fingers. Opening chest, heart is seen to contract feebly four times per minute.

10 Convulsive tremor from above downward with more or less rigidity and twitching of special muscles.

10:10. All movement of heart has ceased; heart does not respond to electricity but general muscular system contracts feebly under the electric stimulus.

10:20. Sciatic nerve being isolated, transmits electric current very feebly; muscles respond most actively when current is applied directly to them.

EXPERIMENT II.

8:25 P. M. A small frog apparently in perfect health was injected, hypodermically, with 5 M. of the extract.

9. No perceptible effect. Injected 5 M. of the extract.

9:13. Animal is dull remaining quiet in whatever position placed with limbs extended.

9:25. Complete absence of voluntary movement. Insensible to mechanical irritation; no reflex movement on pinching toes; very slight reflex on applying acetic acid freely. Cornea insensible to touch. Pupil widely dilated and in a few minutes is insensible to chemical irritation.

9:50. Convulsive tremor from above downwards. Opening thorax heart is beating 16 per minute.

10:50. Heart beats 7 per minute. Contractions very feeble.

EXPERIMENT III.

8:35 P. M. Broke the medulla up in a small frog and injected fl. ext. mistletoe, M. v.

9. Apparently insensible to mechanical irritation, but very sensible to chemical irritation.

9:30 Complete insensibility to chemical irritation, no reflex movement on opposite side when electricity is applied to extremity.

9:35. Isolating sciatic nerve, it is still irritable; pinching nerve makes muscles below contract.

9:50. Opening thorax heart is beating 20 per minute.

10:10. Heart beats 15 per minute.

10:50. Heart beats 15 per minute; ventricular contractions firm and rythmical.

EXPERIMENT IV.

7:52 P. M. A large active frog was injected with fl. ext. mistletoe, M. xv.

8:30. Perhaps animal is dull (?) no other perceptible effect. Again injected of the extract, M. viij.

9. General muscular paresis. *Complete* muscular relaxation. No sensibility to mechanical irritation, but when acetic acid is freely applied to hind leg, sensory impulse is transmitted to the brain, as shown by gasping and twitching of arms but no motor impulse is seen to withdraw part from irritation. Sensory impulse is not transmitted as rapidly as in health.

9:15. Electricity applied to one leg—at thigh, gives fibrillary twitchings of other leg.

9:25. Muscular irritability remains but is reduced; on striking muscles slight contractions occur and electricity directly applied produces more active movement.

10. Muscular and nervous irritability is entirely lost; no response to mechanical, chemical or electric stimulus. Opening thorax the heart is seen contracting rhythmically and firmly, the ventricle becoming pale at each contraction.

11. Heart beats rhythmically 12 times per minute.

EXPERIMENT V.

8:20 A. M. Broke up the medulla and opened the thorax of a healthy frog. Waiting 15 minutes to allow recovery from shock I counted the heart beats at 36 per minute. (All records of the rate of the heart's pulsations were carefully verified with the metronome.)

8:45. Injected 8 minims fl. ext. mistletoe.

9:20. All reflex movement under mechanical irritation is lost. Heart beats 28 per minute, the action seems slowed by prolongation of the diastole.

9:40. No change since last observation. Again injected of the extract M. iv.

10:20. No reflex excited by chemical irritation. Heart beats 12 per minute, diastole markedly prolonged and systole quite strong.

11. Heart beats 8 per minute. Electro-motor contractility still preserved both in nerve and muscle.

11:30. Electro-motor contractility very feeble.

1 P. M. Heart beats very feebly 10 per minute. Electricity applied to spinal cord produces no movements in parts below; applied to muscles directly gives slight twitchings.

1:20. Heart ceased to beat, arrested in diastole.

EXPERIMENT VI.

8:30 P. M. Broke up medulla in a large frog. Exposed heart and—after allowing time for recovery from shock—found it beating 44 per minute; contractions feeble. Injected extract M. x. In an hour the force of the heart appeared increased but no change in number of pulsations. All reflex under mechanical and chemical irritation is lost.

8:10 A. M. Heart beats very feebly and with imperfect contractions 12 per minute. Injected of the extract M. x.

8:40. Heart beats 16 per minute; diastole prolonged and systole more energetic.

9:40. Heart beats rhythmically and forcibly 12 per minute.

11:40. Heart beats only 8 per minute.

12 M. Injected extract, M. x.

12:25 P. M. Heart beats irregularly two to three times in two minutes while left auricle contracts eight times in two minutes.

1:10. Heart beats at irregular intervals 4 times in 5 minutes.

1:30. Heart is arrested in diastole. Auricle contracted several times spasmodically after ventricle ceased all action. Opening ventricle it is found full of blood. It was noticed that to the last beat the contraction was quite strong, the walls of the ventricle becoming anæmic. Lungs are of an ashen gray color and when cut into appear destitute of blood.

EXPERIMENT VII.

8 P. M. A large healthy frog was tacked upon a table—a tack through each foot and one through the nose—and thorax being opened the heart was exposed by carefully snipping away a portion of the pericardial sac. Waiting twenty minutes to allow recovery from shock and then counting, I find heart beating forty times per minute.

8:25. Injected M. xx of the extract.

8:50. No perceptible effect. Again injected M. x.

9:20. Heart beats 32 per minute. Sensibility not lost. Injected 20 minims of extract.

9:45. Heart beats 16 per minute. Cornea insensible. Chemical irritation produces no reflex.

10:45. Heart beats 16 per minute; ventricle contracts feebly;

rythm still good. Blood poured into auricle has become darker and darker till now it is almost black. Lungs are black and collapsed. Heart's contractions very feeble.

12 M. Heart now contracts 20 per minute. No reflex movement from mechanical or chemical irritation, and cornea is insensible. Frog made two distinct convulsive movements of arms and head.

2 A. M. Heart is now beating 16 per minute with *strong* contractions.

7 : 35. Auricle contracts feebly 8 per minute, and ventricle contracts 4 times per minute. 8. Auricle still acts feebly but no movement of ventricle is perceptible except a slight tremor at its apex.

9. Contracts 4 per minute ; can perceive *no* action in ventricle, a few moments later all action has ceased, heart being arrested in diastole.

General summary of results in cold-blooded animals.

1ST. SENSIBILITY.

In experiments 1, 2 and 4, the following was noted as regards general sensibility : At a variable period from 15 minutes to about one hour after the administration of the mistletoe, the frog became dull and stupid ; the remedy seemed to obtund the brain, and the animal—which before the medicament was injected, moved actively at the slightest touch—now permits much rougher usage without seeming to feel ; however, if he be pinched on any part of the body he is quickly aroused and makes very active motions to remove from the source of the irritation, then again quickly becomes dull. Soon after this, all sensibility to painful impressions is lost, the toes may be pinched and acetic acid freely applied without any manifestation of feeling. From experiment *four* it would seem that sensation persists after the loss of motor power, for when acetic acid was applied to hind foot the sensation of pain was conveyed to the brain as shown by gasping and twitching of arms, but no motor impulse was sent to remove part from irritation.

2D. EFFECTS ON MOTION.

In from twenty minutes to one hour after the administration of the mistletoe, the animal became passive and remained in whatever position placed, then there occurred a tendency to extension of limbs soon followed by complete paralysis of all voluntary muscles.

No reflex movements are excited by mechanical or chemical irritation or by touching the cornea. The paralysis is due to the action of mistletoe upon the spinal cord, for after all voluntary and reflex movement is lost and no motion of parts below is excited by electricity applied to the cord, individual muscles are still irritable and contract when struck (muscular irritability is much impaired) and electricity directly applied produces more active movements. Further, on isolating sciatic nerve and pinching it, muscles below contract and more active contractions are produced by electricity applied directly to nerve trunk. The pupil is widely dilated as a constant symptom. The effects on voluntary motion were also present in all cases where the medulla remained intact and where this was divided the abolition of reflex was constant.

3D. EFFECTS ON CENTRAL NERVOUS SYSTEM.

After administering mistletoe the reflex functions of the cord were completely lost and the sensibility of the nerves much impaired. In experiments 3, 5 and 6 the medulla was divided and these effects especially noted.

4TH. EFFECTS ON THE HEART.

In all of the experiments it was noted as a constant effect that the heart was slowed; but that this organ continued in action for some hours after complete death of the voluntary muscles. In experiments 5, 6 and 7, where the heart was especially studied, the heart was slowed, the diastole being prolonged and the systole strengthened. This, in experiment 6 was marked, the systole to the last beat being strong and the walls of the ventricle becoming perfectly anæmic. The rhythm of the heart was undisturbed except in experiments 6 and 7. In these, near the end, the organ seemed exhausted and contracted at regular intervals, the auricle contracting several times between each ventricular contraction. In all the experiments the heart was finally stopped in diastole.

EXPERIMENTS ON WARM BLOODED ANIMALS.

I.

7 P. M. A rabbit, apparently healthy, was injected with fl. ext. mistletoe, 3 i.

7:30. No effect perceptible. Again injected 3 i.

8:30. Animal became very dull, then from crouching position

stretched out. Now, complete muscular relaxation has occurred with insensibility to pain, but motor power was lost before sensory. Just before loss of motion animal bobbed its head up and down several times then let it fall forward completely powerless. Pupils widely dilated. Breathing and heart's action are very rapid. A slight tremor passed once or twice over its frame and in a few moments the heart ceased to beat.

Post Mortem.—Pupils contracted. Opening thorax the heart was found distended with blood, the right ventricle contain a larger amount than the left. The lungs were collapsed and on cutting into lungs so little blood exuded that knife was not stained.

II.

9:35 A. M. Injected fl. ext. mistletoe into the peritoneum of a dog.

9:40. Dog was seized with vomiting.

10:10. Again injected extract, 3 iss. Dog soon became very dull with extreme muscular debility and impaired sensibility. Pupils widely dilated and there is a tendency to extension of limbs with more or less rigidity.

10:20. All the above symptoms more marked. No convulsive movements. Heart beats so rapidly that it cannot be counted. Reflex powers still preserved. Soon, dog drops to floor with limbs extended and there is more or less difficulty of breathing.

11:40. Dog appears much better. Pupils still widely dilated but sensibility and muscular power are improving. Heart still acts very rapidly and respiration is somewhat labored.

5 P. M. Dog has gradually recovered until now he appears perfectly well except pupils are still dilated.

III.

9 A. M. A rabbit, apparently healthy, was anæsthetized, the sciatic nerve isolated and then all the tissues of the leg, except nerve were tightly ligated and divided below ligature so that limb was connected to body by nerve alone.

9:45 A. M. Pinching nerve causes contraction of muscles below line of divisions. Injected fl. ext. mistletoe, 3 j.

10. Repeated injection in like quantity.

10:30. No perceptible effect except widely dilated pupils. Again injected 3 i of the extract.

10:50. Pupils widely dilated. Cornea insensible. Complete muscular paresis. Electricity applied to exposed nerve produces very feeble contraction in parts below; applied directly to muscles, more energetic contractions. A little later, nerve no longer transmits electric current but muscular irritability is still preserved.

11. Animal is dead.

General summary of results in warm blooded animals :

1ST. EFFECTS ON SENSIBILITY.

In each experiment sensibility was entirely lost. The animal first became dull and sluggish, then showed no appreciation of pain when pinched or pricked with a sharp point, sensation, however, remained after motor power was lost. Mistletoe exerts an irritant action on the gastro-intestinal mucous membrane as shown by vomiting which occurred in experiment two, and this action would seem specific since it was manifested through the general circulation.

2D. EFFECTS ON MOTION.

In all the experiments there was complete loss of motor power, the animal being able to feel the pain of mechanical irritation, but is unable to withdraw from it. This loss of motion would seem to be due to the effect on the central nervous system, because after complete loss of reflex power and of power in spinal cord and individual muscles still reserve their irritability. The pupils are uniformly dilated.

3D. EFFECTS ON THE HEART.

A constant effect of mistletoe on warm blooded animals is, increased rapidity of the heart's action,

GENERAL CONCLUSIONS.

Mistletoe is an irritant of the gastro-intestinal mucous membrane. We also conclude that it exerts, in cold-blooded animals, an action on the heart similar to digitalis, slowing its action by increasing the length of the diastole, at the same time increasing the strength of its systole. In warm blooded animals its action on the heart is more like that of belladonna, its force not only being increased but its rate of action also and—contradictory as it may seem—it must be that in frogs the heart is slowed by increase of its inhibiting control and strengthened by stimulation or its motor-ganglia while in warm blooded animals the increase of the pulse rate is due not only

to stimulation of the vaso-motor cardiac ganglia, but also to a paralyzing action on the pneumo-gastric terminal filaments. It must also be noted that in too large doses or too long in action, mistletoe by over-stimulation of the cardiac motor ganglia exhausts their irritability and paralysis results. The action of mistletoe on the pupil is also evidence of its stimulant action on the sympathetic nerves, and further, it is seen that in both warm and cold blooded animals, mistletoe exerts a paralyzing action upon the spinal cord and its nerves both of sensation and motion but the action upon the heart and pupil indicate a stimulant effect upon the ganglionic nerves. Whether this paralysis depends upon a specific action on the cord or whether it be due to a diminished supply of blood, the result of stimulation of the vaso-motor nerves and consequent contraction of its arterioles cannot well be determined, but the latter hypothesis I am inclined to adopt. Mistletoe destroys reflex functions of the spinal cord and lessens the electro-motor contractility of muscles.

THERAPY.

Having determined mistletoe to be a stimulant of the sympathetic nerves, and knowing that the uterus like all unstriated muscles is under the direct control of the organic nerves, it is easy to understand its alleged oxytocic powers and from my own experience I am prepared to endorse not only all that Dr. Long claims for in this connection, but further, I would add that in those cases of post partum hemorrhage in which the loss of blood has been extreme and the nervous shock so severe that we dare not give ergot lest paralysis of the heart result. Mistletoe, from its stimulant action on the heart, may be given with greater safety and with even more confidence as to relief of the flooding than ergot. Again in retained placenta of abortion, at once so annoying to the physician and dangerous to the patient, mistletoe will be found a most efficient remedy. Further from its stimulation of the vaso-motor nerves and consequent contraction of the arterioles it will do good service in cases of menorrhagia, metrorrhagia and hæmoptysis. Its action on the heart indicates its usefulness in all diseases of this organ characterized by weak action and low arterial tension. And finally, diseases of the brain and spinal cord, especially those in which congestion is marked, we may expect to be benefited from

the administration of mistletoe and in the reflex convulsions of children the paroxysms continuing after the irritating cause has been removed, mistletoe may prove useful by lessening the reflex functions of the cord. We give below a few cases showing the results of its clinical use in accordance with these conclusions :

CASE I.—My father was called to a case of abortion at the end of the third month to deliver a retained placenta. As usual, the cord had been snapped from its placental attachment, and his best endeavors failed to obtain the after-birth. Ergot was then ordered and administered freely for three consecutive days without result ; there was an offensive discharge per vaginam and septicæmia seemed imminent. Dr. Payne then bethought himself of mistletoe, and having some gathered, a strong decoction was prepared and about half a teacupful administered at a single dose. In a few moments violent uterine effort occurred and the placenta was expelled at a single pain. The woman complained that she felt as if she would be “turned wrong side out.” Recovery followed with no untoward symptom.

CASE II.—Mrs. E. called me to attend her in her third confinement. She had called me several times before when suffering with false pains, consequently I did not hurry, and when I arrived I felt convinced that true labor pains had not set in, indeed, I thought she might still be several days from term. She, however, would not hear to my leaving, and after careful consideration I determined to give mistletoe a trial. The pelvis was very capacious, the vagina was large and well lubricated with mucus and though the os was not at all dilated the cervix uteri was soft and cushiony to the touch. At the time of giving the first dose of mistletoe, she had been having pains for fifteen hours, and the os uteri was not affected in the least.

At 3 : 30 P. M. I gave fl. ext. mistletoe 3 i. In 15 minutes she began to have strong pains and in 40 minutes the os was as large as a silver quarter. I now gave another drachm of the extract. Her pains increased in frequency till at 4½ o'clock the intervals of rest were so short as to be scarcely perceptible and from that time her pains were so severe that I was much alarmed lest an evil result should follow my meddling.

At 9 : 30 P. M. she was delivered of a girl ; the womb contracted well and she had a good getting up.

CASE III.—My father was called to Mrs. T. Examining per vaginam, he found the cervix in a cancerous condition on its anterior surface, and the woman advanced to the third month of pregnancy in the act of aborting. The fœtus was soon delivered but then all uterine action ceased and the after-birth was retained. After waiting for some time in vain for a recurrence of action, a half teacupful of a decoction of mistletoe was administered. In a short time pains again set in and the placenta was promptly expelled.

CASE IV.—Mrs. B., a widow, æt. 43, no children, applied for treatment saying she had been for several months under the care of different physicians without improvement. She suffers metrorrhagia and has taken aromatic sulphuric acid, ergot, and, in truth, nearly all the hæmostatics without avail. She is very anæmic and much debilitated. She was directed to discontinue the elixir vitriol which she was then taking, and was ordered fl. ext. mistletoe in doses of thirty drops three times daily. Under this treatment there was slight improvement and the dose was increased to one drachm. Improvement was now more marked, but fearing the fluid extract was not as reliable as it should be, she was ordered a decoction of mistletoe (strength, mistletoe, two ounces, to water, a pint and a half, boil down to a pint and strain), in doses of one ounce every six hours. In a few days the hemorrhage ceased entirely and has not since appeared. The patient expresses herself as feeling better than she has for years and is gaining flesh.

CASE V.—Mrs. F., æt. 27, married, and mother of four children. She tells me that during the last year she has at short intervals flooded severely, and at one time came near dying before a physician could be called. She has now been flooding for about a week and, under the care of another physician, has taking various remedies without relief. Examination reveals the womb much enlarged and retroverted, the os patulous, soft and spongy to the touch. She is now taking ergot without apparent good effect, and I at once ordered fl. ext. mistletoe in drachm doses every six hours. She began at once to improve and in two days, the extract giving out, and having no more at hand I ordered her a decoction of like strength and dose as was given in Case IV. After the first dose of this, she ceased to flood and an interval of six weeks has now elapsed

without a return of flow. Under a tonic course of treatment the lady is rapidly improving in health.

At my request, Dr. Daniel S. Hughes, Chief of the Medical Clinic of the Jefferson Medical College Hospital, consented to give mistletoe a trial in cases of hæmoptysis, in the out-patient department of the hospital. So far, he has only used it in two cases and I take the liberty of inserting the following extract from a private letter to me detailing his results :

“ The two cases of bronchial hemorrhage I treated by your sample, (extract mistletoe) were not entered on the hospital books. From memory, this was about the condition.

“ No. 1. Second stage, tubercular phthisis, frequent large hemorrhages for over two years; ergot, salt and gallic acid, he said, had been frequently used in previous hemorrhages, but they acted very slowly and it was a question whether the hemorrhage ceased from their use. The attack he had when I saw him began after a violent fit of coughing when he was within a square of the hospital, came to me at once and I gave ʒss of the extract and repeated amount in 15 minutes after the first dose, hemorrhage ceased.

“ No. 2. Said had been perfectly well till within a week, when he had a cough, tight and ringing, without apparent cause, had violent hemorrhage and came at once to hospital, ʒss of extract at once; in 15 minutes dose repeated; 25 minutes after this, hemorrhage ceased.”

Pilocarpin in the Treatment of Puerperal Convulsions.—A. Hamilton, F. R. C. S., Ed., relates, in the *Brit. Med. Jour.*, April 2d, 1881, a case of puerperal convulsions treated by pilocarpin. The woman was a primipara in the seventh month of pregnancy, os rigid, urine albuminous. Administered 3-10ths of a grain of pilocarpin hypodermically. This was followed by profuse salivation and sweating, and strong uterine contractions set in. After an interval of an hour she had seven fits in quick succession. Two hours after the first injection, a second was administered. Salivation was so copious from this as to threaten suffocation, but convulsions became weaker and pains stronger, and the foetus was expelled ten hours after last injection.

ENCEPHALOID CANCER OF THE KIDNEY.

A Clinical Lecture Delivered at the Hospital of the University of
Pennsylvania.

By WILLIAM PEPPER, M. D.

Professor of Clinical Medicine in the University of Pennsylvania.

Reported by WM. H. MORRISON, M. D., for the NORTH CARO-
LINA MEDICAL JOURNAL.

GENTLEMEN :—I had, to-day, intended to spend part of the hour in a consideration of the operation for empyema, but as another case will be admitted to the hospital next week which will probably require the same operation, I shall leave them both until next Saturday.

To-day I shall ask your attention to another case of a different nature. This is a child four years old. The mother states that while carrying the child, she had two frights. One was caused by going into a room where a corpse was lying, the other, by an insane person, with whom she was sitting up, suddenly getting out of bed. The child appears to have been perfectly healthy when born. He had a severe attack of measles when two years old, but got over it pretty well.

In July, he appeared to be perfectly well. At this time he jumped out of bed and hurt his left side. For a day or two he was not able to straighten himself. After the intensity of the pain had passed away, he still showed that this side was weak and painful by the fact that he favored this side, and when he laid down, he laid with his legs drawn up. About two months ago, that is, in the early part of October, the mother noticed that the child's belly began to swell and continued to increase rather rapidly. She also says that the child has not vomited blood, that the bowels are constipated, that he has passed some slime by the rectum, that the appetite is poor, that he has lost flesh, that there is fever at night, but no sweating.

Examination of the abdomen reveals at once a great and irregular enlargement. We notice in the first place, that it is very irregular and that it is not the enlargement of ascites. It is not in

the pelvic region, but more towards the hypochondrium. It is also more marked on the left side and we notice springing from it, irregular protuberances. The enlargement extends down to the line of the umbilicus. We also find great enlargement of the subcutaneous veins of both sides.

Shall now take the temperature of the body in the axilla, and also the surface temperature by means of a thermometer, which I have just received from London. We know that in a paralyzed leg the temperature is lower than in the non-paralyzed one, that in pneumonia, the temperature of the affected side is higher than that of the healthy side; but such facts are not of much use in diagnosis. What we want to know, is, for instance, in a case of intestinal obstruction with invagination and inflammation and it becomes necessary to open the abdomen, can we determine the proper place by means of surface thermometry? In a case of abscess of the liver can we learn the proper point at which to tap, by surface thermometry? These are questions which have not been answered, principally on account of the want of proper instruments, but now

- I hope that with this instrument we may be able to learn more of the advantage of surface thermometry.

As I have said the subcutaneous veins are much enlarged. This is extremely significant of some mechanical obstruction to the abdominal venous circulation. Here we have the branches of the superficial epigastric vein passing downward to empty into the femoral while in the upper part we have the branches of the superficial mammary passing upward. Now, in some of these cases of severe obstruction to the venous circulation of the abdomen, you will find that the direction of the current in the epigastrics, is reversed and that the blood flows upwards through the mammary veins. In order to determine this question, which is only one of degree, indicating a more marked obstruction than the simply enlargement. I place one finger on the vein and with another press the blood downwards. I thus have the collapsed vein between my two fingers. I lift the lower finger and the vein immediately fills. I again empty the vein and removing the upper finger the vein does not fill. It therefore follows that in this case the current in the epigastric veins, is upwards. We have here, then, evidence of severe and long continued abdominal obstruction.

While the form of this swelling shows that it is not due to ascites, it would be better to test it by palpation and percussion. There is no fluctuation here. There is resonance down into the right flank. The form of the mass, the resonance and the absence of fluctuation, are a sufficient proof that the enlargement is not due to ascites.

The body temperature is 101.2° , the surface temperature 97.2° .

Examining the mass by percussion, I find that pulmonary resonance is impaired at the sixth interspace, at the seventh rib, it becomes flat and continues flat down to the anterior superior spinous process of the ileum. In a lateral direction the resonance is but a little inside of the line of the right nipple and continues flat around into the left flank. Close up to the vertebral column there is some resonance where the lower part of the lung passes down. Below this, over the region of the left kidney, I find entire flatness and it is not until I get to the crest of the ileum, over the sigmoid flexure of the colon, that I find any resonance. This is then an oval mass with its long diameter from above downwards and from before backwards. It is irregular and rounded, with here and there projecting masses. I am able to move this mass to a small extent, but it does not move freely. I can move it, perhaps, about an inch or an inch and a half in a lateral direction. It is very superficial as you would judge from its appearance and from the entire absence of resonance.

Does it fluctuate? At the middle it gives the sensation of a mass with thick walls containing a semi-solid material. It does not fluctuate, but I do not think that it has solid contents. When I press upon the lower part of this mass, I do not have similar sensations.

The heart is healthy, but acting rapidly. The respiratory movement is good. Resonance is good all over the chest. Examining the liver, hepatic dulness is found to be normal.

There are two questions to be settled in this case, first, what organ is involved? Second, what is the nature of the disease? Is this mass a tumor of the spleen, or a tumor of the left kidney, or a tumor contained in the cellular tissues of the abdominal walls and their organs?

Before discussing this, I must call attention to the fact, that here in front there is a smaller mass, which is very movable, flat, shallow,

and very superficial. What is this? I think that this small body is the spleen, and if this is so, the larger one must be something else. It might be an enlarged supernumerary spleen. I have seen such cases, where on removing the spleen two or three supernumerary spleens were found attached. I think that this smaller mass is the spleen and that the larger one is the left kidney, or a tumor in the cellular tissue of the abdominal wall, or an effusion of blood forming a hæmotoma.

What is the nature of this tumor? There are two periods of life at which malignant disease most frequently presents itself. These are childhood and old age, but primary malignant disease of a single organ is more common in infancy than any other period of life, and this is true of no other organ as it is of the kidney. I have seen so many cases of primary encephaloid cancer of the kidney, in young children, that I have been strongly impressed by its frequency at this period of life. You find that such disease may start without any apparent cause whatever, or it may be set on foot by a blow or an injury. In this case there is no apparent hereditary taint. This child was healthy until July when he received the injury.

What else could such an injury give rise to? In the first place I have seen cases where, after an injury occurring in a young child, a large effusion of blood has taken place into the abdominal cavity giving rise to a distinct tumor. Perhaps one of the most interesting cases, was that of a lad nine years old, who was struck by a passing wagon and immediately complained of pain in the right side. He subsequently came under my notice with a large tumor, occupying the right side of the abdominal cavity, presenting indistinct fluctuation. All the circumstances justified the hope that it was a hæmotoma. On tapping it I removed a quantity of bloody liquid which was followed by a perfect cure. I have seen other cases where similar masses have undergone slow absorption. We must then consider, in the first place, the possibility of this being a hæmotoma, and secondly, the possibility of its being an abscess. It may be an abscess either of the left kidney, or possibly an abscess of the tissues around the kidney which has burrowed forward.

We have then one of three conditions, first encephaloid cancer of the left kidney, or, if I am mistaken as to the nature of this small

Mass, encephaloid of the spleen, secondly, hæmotoma, and thirdly, abscess, either peri-nephritic and appearing in a curious place or occupying the substance of the kidney or spleen.

How are we to determine this question? Is this encephaloid? I am inclined to hope that it is not, first we have distinct proof of febrile action, even now in the morning (12:30 P. M.) we have a temperature of 101.5° and I will also try to have the temperature carefully studied at all periods of the day and night, secondly, the case has such a distinct history of acute traumatic origin that it points in the direction of some other condition.

Now, as to whether it is an abscess or a hæmotoma. There is too much solid matter for it to be an independent abscess. If an abscess it must occupy the substance of an enlarged organ.

Here is a case where aspiration is necessary, in order to determine the diagnosis, and all our treatment will depend upon the evidence we obtain from this operation.

I shall endeavor to bring this case before you again next Saturday and perform this operation.

I shall also have the urine carefully examined before we again meet.

PHILADELPHIA, December 13th, 1879.

GENTLEMEN :—I again ask your attention to the diagnosis of this interesting case of abdominal tumor, which we considered at some length last week. You will remember that it seemed to have an acute traumatic origin. The child was healthy up to a certain day in July when he fell from the bed and struck his left side and hurt himself so badly that for several days he was unable to bear his weight upon the left leg. Since then he has favored that side and while lying, shows a disposition to assume a position in which the abdominal muscles of that side are relaxed. After this it was noticed that the general health began to fail and that he lost flesh, strength and color. Occasionally there was vomiting, and sometimes he passed a little slimy matter with his stools. About September, two months after the injury, a tumor made its appearance in the left side below the short ribs and has rapidly grown.

On examination, we found an irregular nodulated mass, coming

out below the ribs, extending down to the line of the anterior superior spinous process of the right ilium, evidently dipping far back into the hypochondriac and lumbar regions, dull on percussion, superficial and just below the abdominal walls. At about the middle of the mass there was a prominence at which point indistinct fluctuation could be detected. There is a little movable body, lying to the front and inside of the mass, which I take to be the spleen, healthy, and pushed from its natural position by this tumor. Without going further into the points considered at the last lecture, I shall remind you that I came to the conclusion that this tumor consisted of a large collection of blood, a hæmotoma, or an inflammatory collection, an abscess, or else that it was a malignant tumor of the left kidney.

If this mass was of an inflammatory character, we should expect that the symptoms would indicate it by showing some febrile action, I, therefore, had the child brought into the house in order to make a complete thermometric study of the case, but the results have been entirely negative. On admission, the evening temperature was 99° and the highest temperature reached has been 100.4° . Now, such a slight degree of fever cannot be regarded as establishing the inflammatory or suppurative nature of this mass, but points more against that view. Secondly, I told you that here was a case, where it would be interesting to study the results of surface thermometry. Careful observations have been made upon this point with equally negative results. The temperature over the tumor is less than elsewhere. The temperature over the prominent part was from 96° to 96.2° ; over the umbilical region, 96.5° to 96.7° ; over the lumbar region just posterior to the tumor, 97.4° , more than a degree higher than over the mass itself. So far as these observations go, they are against the hope of any inflammatory origin and in favor of its being carcinomatous.

I also told you that time was required to study the urine. We find that the urine throws down an abundant deposit, it contains considerable albumen, but no sugar, or tube casts; it also contains a little mucus, a great deal of squamous epithelium and a quantity of triple phosphate. These are again in favor of the kidney being involved. Now, although I think that this little movable body, is the spleen, healthy, and of natural size, yet, we so often find in

cases where the spleen is the seat of organic disease, some alteration in the composition of the blood, that I propose to have an examination of the blood made in order to determine whether or not the white corpuscles, are increased in number; but I do not expect to find any material change.

We must now turn to the operation of aspirating the prominent point of this mass in order to make the diagnosis. If it proves to be an encephaloid of the left kidney, the disease is inevitably fatal and it is only a question as to how long the child can hold out; but if it is a collection of purulent matter, the operation would prove its existence and perhaps point to some successful mode of treatment. The more we study this case, the more unfavorable becomes the prospect. I will introduce then the smallest needle of the aspirator and simply make the puncture as an exploratory or diagnostic measure. The question now arises, can this operation do any harm? If there was any possibility of injury following this, I do not think the prospect of relief would justify the operation. There is no doubt, however, but that the peritoneum has been so altered by the presence of this mass, that it will not take on any inflammatory process from the puncture of this small needle.

I introduce the needle, but nothing flows out but a bloody liquid, so that I think there can be no question as to this being a soft encephaloid mass. I introduced the needle an inch and a half so that if there had been any liquid I would have reached it. I will have this bloody fluid examined under the microscope. This then adds another link in the chain of evidence which points to the unfavorable character of this case. You see then that we have excluded, step by step, any hope as to the inflammatory nature of this disease.

The examination of the urine and the detection of the healthy spleen, both point to implication of the kidney, and there is no question but that the needle entered a tissue which is highly vascular and which probably contains no collection of food. All these considerations would lead us to the view that this is an encephaloid of rapid growth involving the left kidney, which seems to have had its origin in an injury received last summer. Other things pointing in the same direction are the absence of an elevated temperature or hectic fever and the results of surface thermometry which indicate that this is a purely non-inflammatory growth. The child will now

be put to bed and receive a good dose of opium (five drops of the deodorized tincture) and a piece of lint soaked in pure laudanum will be placed over the seat of puncture.

Examination of the blood removed from the tumor shows nothing but blood. The blood removed from the finger would indicate a slight deficiency of the red globules, but not sufficient to constitute any degree of anæmia. If the child remains under observation, I will have an actual enumeration of the corpuscles made.

As to prognosis. This has grown so rapidly, that it is not to be supposed that the child will survive longer than three months.

Use of the Calotte in the Treatment of Ringworm.—Mr. Balmano Squire, in presenting to the Clinical Society of London a calotte (a piece of pitch-plaster spread on calico) used in the treatment of ringworm, stated that during a visit in the summer of 1879 to Milan he noticed in the vast hospital of that city (a hospital containing as many as two thousand beds) that there was a ward set aside for the treatment of ringworm. The physician in charge of this ward obligingly explained the mode of treatment adopted there. The calotte, which in other countries has become a somewhat obsolete contrivance, remains still in vogue in Italy. It is applied twice a week, and each time that it is pulled off, the head is painted with tincture of iodine, and a fresh calotte is at once applied. Mr. Squire, who had never seen a calotte used before, was much struck with its extraordinary capacity for achieving the wholesale eradication of diseased hairs. It appeared to him to effect a great saving of labor as compared with epilation performed with forceps, and he was surprised at the almost complete painlessness of the operation of pulling it off, even in the case of very young children. The exact degree of tenacity of the plaster is an important point, and must be different in summer to what it is in winter, and the plaster must be spread sufficiently thick. Mr. Squire had tried the plaster at the British Hospital for Diseases of the Skin, and had found it an efficient epilator in cases of true ringworm.—*Clinical Society Transactions.*

SELECTED PAPERS.

INAUGURAL ADDRESS ON THE CATGUT LIGATURE.

Delivered before the Clinical Society of London, January
28th, 1881.

By JOSEPH LISTER, F. R. S., President of the Society.

GENTLEMEN :—In thanking you for the great honor which you have conferred upon me by my election to this chair, I do so with a peculiar feeling of gratitude, because I am well aware that my personal share in the proceedings of the Society has not been such as to entitle me to hope for such a distinction at your hands. I can only strive to discharge to the best of my ability the important duties which your kindness has imposed. In considering the choice of a subject for the inaugural address which is expected from your President, I have felt precluded from presenting a summary of the labors of the Society in the past, or from tendering advice as to its conduct in the future, and after consultation with some influential members of the Council, I have decided to bring before you this evening a special subject which will, I trust, be thought not unworthy of the occasion, inasmuch as, while it is still in an unsettled or transitional state, it is full of interest for every practical surgeon and at the same time in some of its aspects well deserves the attention of the pathologist and the physician—I refer to the catgut ligature: In adopting this course I feel it needful to crave your indulgence; for the subject is a large one, and in order to do it anything like justice I shall have to trespass for a considerable time on your attention.

The catgut ligature has in some respects exceeded my original hopes. I feared that its advantages would be limited to wounds in which putrefaction was avoided, and that if septic suppuration took place in a wound in which it was employed for securing the vessels, the ligatures would sooner or later come away like little sloughs. Such, however, has not proved to be the case. Whatever be the progress of the wound, we never see anything of the catgut, so that even surgeons who have not adopted strict antiseptic treatment have been led to employ the new material in ordinary wounds. Under

other circumstances, however, the catgut has often led to disappointment. We hear of cases in which the Cæsarean section has been performed, and all has gone on well until the knots of the catgut with which the uterine wound was secured have given way and the patient's death has been the result. Again, in ligature of large arterial trunks in their continuity several surgeons have met with bitter disappointment, the case ending in disaster from secondary hemorrhage, or the treatment proving abortive through the channel of the vessels becoming opened up again, at the site of ligature. Hence many surgeons have been induced to return to silk, even though using strict antiseptic treatment; rendering the silk aseptic by steeping it in a suitable lotion, and cutting the ends short. This practice has, however, by no means proved uniformly successful. As an instance of unsatisfactory result I may mention a case recorded by Mr. Clutton in the last volume of our Transactions. He tied the external iliac artery, under strict antiseptic precautions, and the wound healed within a week; but as I learned from a letter which he was good enough to send me at the time, "six weeks after the operation a little blister formed, and fluid began to escape, forming a small scab, and in three months the loop which had been placed around the artery came away." Such a result was not at all surprising to me, seeing that what induced me to try the animal ligature was the discovery of a small abscess about the remains of a partially absorbed silk thread, which I had applied in the same manner as Mr. Clutton, and, as it happened, to the same artery. It can hardly be doubted that suppuration proceeding from the immediate seat of the ligature, must be a source of danger. As an illustration of the mischief which a ligature of ordinary material may do, I may mention a case of goitre in a young woman on whom I operated on January 28th of last year. It was of moderate dimensions, but the effect on the respiration was so considerable, that I determined to remove it, following Dr. Patrick Heron Watson's plan of preliminary deligation of the thyroid vessels circumferentially to the tumor. If this is effectually done, the operation is bloodless—so that as the laryngoscope applied by Dr. Felix Sémon, who had recommended the case to my care, showed that the anterior wall of the trachea was pressed back considerably by the growth, I adopted a measure which I believe would in all cases of

the removal of the thyroid prove advantageous—namely, I divided the tumor in the first instance in the middle line, so that in the event of adhesion to the trachea to be able to remove the two halves of the growth at leisure, dissecting it off from the trachea more or less completely as might be desired, leaving some portions at the adherent parts, so as to avoid the deadly risk of perforation of the air-passages. But in order that the circumferential ligature of the thyroid vessels may be secure, it is essential that the material should be very strong, so that the tissues round about the tumor, including the vessels, may be thoroughly tightened up. I possessed no catgut which I felt was strong enough to bear the full strength of my hands, and therefore I was compelled to use a hempen ligature, after, of course, carefully rendering it aseptic by means of the carbolic lotion. Six of these hempen ligatures were used, three on each side.

During the first eight days everything went on in typical fashion according to the antiseptic method. There was a merely serous effusion rapidly diminishing, and we looked for the wound being healed in a few days more. But on the ninth day there was seen to be a little something of purulence mingled with the discharge; and the pus afterwards became thicker, though always in small quantity; a little could be pressed out from each side and in a month one of the hempen ligatures made its escape. Five days later four others of the hempen threads came away, altogether unaltered, as they may be seen on one of the cards on the table where I have exhibited them. I submitted them to careful examination. They had a sour odor, and applied to litmus paper, gave an acid reaction—that is to say, the natural alkaline condition of the blood serum had been changed to acidity by some peculiar species of fermentation. On examining them with the microscope I found the interstices of the threads of the hemp loaded with a little organism, to which I believe I happened to be the first to direct attention as to its mode of growth,* and to which I gave the name of *Granuligera*, occurring in groups of two, three, four, and so forth, as distinguished from the chains of ordinary bacteria, and of which one form at least has been since shown by Mr. Cheyne to occur very frequently in cases treated antiseptically without any interference

*See Transactions of the Royal Society of Edinburgh, Vol. xxvii., 1875.

with aseptic progress. I found that the interstices of the threads of the hemp were loaded with these little micrococci, thanks to Mr. Cheyne's kindness. He brought this flask of a pure and perfectly transparent infusion of meat to a case which I had operated on a fortnight before by excision of the ankle. The skin had been unbroken, so that I was able to operate antiseptically, and the case pursued a perfectly typical course. The wounds which were left gaping at the time of the operation, were filled with blood-clot, which remained unaltered in appearance, though undoubtedly organized by that time, more or less. A little piece of the blood-clot from one of these wounds was introduced with careful antiseptic precautions into the flask of clear fluid, and you see it is now turbid; and there is under the microscope on the table a specimen of the little organism to which the turbidity is due. But though, under ordinary circumstances, these micrococci may be present, as Mr. Cheyne has absolutely shown, and as the excision of the ankle I have just referred to illustrates, without causing any evil, yet there may be circumstances in which they may prove mischievous, and the case of goitre which I have been relating appears to have been one of these. The micrococci developing for a protracted period in the interstices of the hempen ligature produced an acid fermentation of the serum in its most aggravated form. The acid serum became a cause of irritation, and thus the ligatures, which otherwise, being unirritating in their own substance, might have become encapsuled, and in due time absorbed, became causes of suppuration. One of the six ligatures still remained unaccounted for. In due time we sent the patient home with a small sinus remaining, a little pus always discharging from it, but it was not until the middle of September that the last ligature came away altogether unaltered. Now, gentlemen, there is no doubt whatever that if I had had catgut which I could have trusted for the operation, the catgut ligatures would have been disposed of within two or three weeks, and the healing, instead of requiring eight months, would probably have been completed in a fortnight. Here, then, we have an illustration of the great disadvantage which may arise even under the antiseptic treatment from the use of the ordinary forms of ligature.

Animal ligatures of another kind have been provided by Mr.

Barwell in order to remove these difficulties—namely, strips of the mingled yellow elastic and unstriped muscular tissues which constitute the arterial wall, obtained by spirally cutting the aorta of one of the larger animals. But fully admitting the efficiency of these ligatures in his hands, I am given to understand that their form and size render them by no means very convenient, and, independently of this, I cannot but feel that it is unsatisfactory, if it can be avoided, to have a special material for this particular object, and that it would be better, if possible, to have the catgut in a thoroughly reliable condition. Catgut, of which I have samples here, is to be had all over the world in abundance. It is beautifully strong and smooth; it is prepared of various sizes, admirably adapted for all the purposes of the surgeon, and is extremely cheap. Wholesale it is sold at 12s. per gross, that is to say, 1d. per hank. But as it comes from the maker it is entirely unfit for the purposes of the surgeon. However beautiful it is in the dry state, it becomes soft and pulpy soon after it has been placed in blood serum. In one of these glasses is a piece of unprepared catgut which was placed in warm serum this morning, from the blood of a cow, and within half an hour it was in the condition in which it is at the present time, swollen, soft, and pulpy. A knot tied upon it would hold as little or scarcely better than would one on a piece of the intestine from which the catgut is derived: an utterly unsatisfactory material, soft, and slippery, the knot not holding in the least. It is essential in order to fit the catgut for the purposes of the surgeon, that it be altered in its physical constitution so as to be no longer liable to this softening effect by the serum of the blood. It is a remarkable circumstance that the blood serum softens catgut more than even water does. It might have been expected *a priori* that a solution of a colloidal substance like albumen would have been much less disposed than water to permeate and soften an animal tissue like catgut; but it is otherwise, and therefore we cannot test the trustworthiness of catgut by steeping it in warm water, as I formerly used to do. In order to be sure that a given specimen of catgut will answer the purpose in so far as the knot is concerned, that it shall not slip, it is needful that we steep the catgut in blood serum, a somewhat troublesome process, as it involves sending to a slaughter-house for blood.

The method of preparing catgut, which I published long ago, answers the purpose very well even for the ligature of arteries in their continuity, provided certain conditions in its preparation be complied with. Such, at least, is my own experience. This, indeed, has not been very extensive, but it has been sufficient to deserve consideration. I have tied altogether nine large arteries in their continuity with prepared catgut. Of these, one was a case of ligature of the carotid in a young woman aged 22, with a pulsating tumor below the angle of the jaw, in the situation of a carotid aneurism and with all the symptoms of that disease. The application of the ligature reduced somewhat the pulsation and the dimensions of the swelling, but the further cure which we hoped for did not take place. She left the hospital with a pulsating tumor, and I heard only yesterday from the medical man under whose care she is in Scotland, that this tumor, for which I tied the carotid artery in 1874, still exists as a pulsating swelling, if anything rather on the increase. But though as regards the cure of the disease the ligature was unsatisfactory, nothing could be more beautiful in its effect as respects the healing of the wound without suppuration, and permanent obstruction of the artery at the seat of ligature.

A case of traumatic arterio-venous aneurism of the temporal artery may be mentioned in the category, partly because the greatly dilated condition which the naturally small artery had assumed brought it up to the dimensions of a large trunk, and partly because the concurrent ligature of the largely dilated veins would, without antiseptic means, have been justly regarded as of considerable danger. The others were all cases of ligature of the femoral. Six were popliteal aneurisms, four of which presented nothing deserving of special remark. One was a diffuse aneurism reaching up nearly to Poupart's ligament. It was necessary for me to tie the femoral artery about the situation of the ordinary origin of the profunda, and even there my incision opened into the aneurismal clots. The last was a case of a large arterio-venous aneurism of the upper part of the femoral, of idiopathic origin. This case was of such special interest that I hope on a future occasion to make it the subject of a paper before this society. In all these cases except two, catgut, prepared by the old method, was employed, and in all these nine cases the result was satisfactory, and recovery was perfect, ex-

cept as regards the poor young woman who has still the pulsating tumor in her neck.

As regards the mode of applying the ligature, I have always used a single reef knot, with short-cut ends, tying it sufficiently tightly to cause the giving way of the internal and middle coats. This latter point is not, indeed, essential, as I long ago surmised, and as Mr Barwell's experience has demonstrated. But if, as in the case of catgut, the form of the ligature admits of it, the injury done to the deeper tunics is, I believe, advantageous, by leading to a salutary corroborative process of repair.

Why, it may naturally be asked, has my own experience been more satisfactory with the catgut ligature than that of many other surgeons? There are, I believe, two reasons for this: one is, that I have never ventured to tie an artery of considerable size in its continuity without having taken pains to ascertain that the catgut was of thoroughly trustworthy material; and the other reason is, that I have adopted strict antiseptic means of treatment, not only during the earlier stages of the case, but to the last. So long as any part of the wound remains unhealed, antiseptic treatment of the strictest kind ought, I believe, to be employed. Even though the sore may seem to be superficial, there may still exist a sinus leading down to the site of the ligature, and if ordinary treatment, as distinguished from antiseptic, be employed, down this sinus the septic process may advance and invade the ligature, and inducing unhealthy suppuration and ulceration, may lead at last to disaster from hemorrhage. I know that this has actually taken place.

But although the catgut prepared after the old method answers very well if it be of proper quality, here is this great objection to this method that it requires a long time in order to produce the requisite quality. At least two months are needed to make the ligature at all trustworthy. It is better at the end of six months, and still better at the end of a year. I possess catgut prepared in this way twelve years old. I have brought here a sample of catgut which has been steeping in warm blood serum since this morning, and it will be seen that it remains translucent and is comparatively firm, instead of being opaque and soft like the unprepared catgut in the same serum.

Now, the length of time that the present method requires is a

very serious objection. It makes the surgeon who has not prepared the catgut for himself, and kept it for a long time, at the mercy of the person who supplies it; and the person who supplies it not being aware of the enormous importance of the question of time, if he happens to have run out of that which has been long prepared, will sell what has been only a short time in the preparing liquid, and is in consequence altogether untrustworthy. A case illustrating this point occurred last year in my practice at King's College Hospital. A patient was admitted who had met with a severe wound on the ulnar side of the forearm, at the anterior aspect. The ulnar artery had been divided. This had been secured by my house-surgeon. He had also tied with catgut the corresponding ends of the various tendons that had been severed. But when I saw the patient the next day I found that he could not feel with his little finger and the adjacent side of the ring finger, and therefore it was evident that his ulnar nerve also had been divided, and my house-surgeon had not thought of attending to the ulnar nerve. I therefore cut the stitches in the skin and proceeded to explore the deeper parts of the wound, in order to find the ends of the divided nerve, and tie them also, together with catgut, and I found that all the catgut sutures with which the ends of the several tendons had been tied together were lying absolutely loose. The knots had slipped within the twenty-four hours, and yet this catgut had been supplied by one of our ordinary instrument-makers. He had sent us what had not been sufficiently long prepared. I took care to use proper catgut for the ulnar nerve; and the patient left the hospital with restored sensation in the fingers.

The length of time that it requires is, therefore, an exceedingly serious objection to the present method of preparation: and one great object which I have had in view to a series of experiments on this subject with a view to improving the preparation of the catgut ligature has been to devise a means, if possible, of preparation within a short time. These experiments—it may seem almost ludicrous to say so—have occupied two years of my leisure time in the past, some time ago, and after being interrupted by an accidental circumstance, have been continued in a more desultory manner since; but at length I have felt myself justified in bringing before you a new mode of preparation by which the catgut can be

prepared in a short period, and at the same time in a perfectly trustworthy condition.

But before I allude to these experiments, which I must endeavor to do in a short compass—I should weary you if I were to bring a large proportion of my facts before you, though I may say out of the hundreds of experiments I have performed on the subject I have never performed one which has not added something to my knowledge of it—before referring to these experiments I wish to say a few words as to what catgut is.

[To be continued.]

TRACHEOTOMY BY A SINGLE INCISION.

We witnessed recently a *trachéotomie en un temps* executed at the Hopital des Enfants Malades by M. de Saint-Germain, who has up to the present time performed 227 tracheotomies without having met with a single accident of any consequence. A declared opponent of the operation by repeated incisions made with calculated deliberation, he places the child on a table with his shoulders lying on a firm cushion, and his head hanging down, firmly supported by an assistant. He fixes the larynx with his left hand, seizing it by its lateral and posterior parts as if he would separate it from the spinal column, and then plunges a bistoury with a straight and narrow blade into the crico-thyroidean membrane, having its cutting edge towards the sternum. Passing this in to a depth of fifteen millimetres, he divides, by a sawing movement without pressure, the cricoid cartilage, the two or three first rings of the trachea, the isthmus of the thyroid, and the skin. While removing the instrument, he prolongs the incision a few millimetres in the skin to facilitate the flow of the liquids. The edges of the wound are then separated by the dilator and the canula is introduced. If the slight hæmorrhage does not stop very quickly, it is arrested by the substitution of a larger canula.—*Gaz. des Hop.*, January 15.—*Medical Times and Gazette*.

AMERICAN MEDICAL ASSOCIATION.

THIRTY-SECOND ANNUAL MEETING.

We are indebted to the *Virginia Medical Monthly* for the account of the Proceedings of the Association. A Daily Edition of this Journal was issued, thereby relieving us of the labor of making notes, and giving us an opportunity to enjoy the occasion to the fullest extent.

The Association was called to order at 10 o'clock, May 3d, in Mozart Hall, by Dr. F. D. Cunningham, of Richmond, Chairman of the Local Committee of Arrangements. Prayer was offered by Bishop Keane. The address of welcome was delivered by His Excellency Governor Holliday. He made an earnest and appropriate speech, and was followed by Dr. John T. Hodgen, of St. Louis, Mo., the President.

ADDRESS OF THE PRESIDENT.

Colleagues of the American Medical Association:

In obedience to the time-honored usage of the Association I shall ask your attention to a few thoughts, such as may be supposed to be fit for the occasion of our coming together for our annual meeting.

But first, in the name of the Association, let me express to the local Committee of Arrangements and to the medical profession of Richmond our grateful acknowledgement of the hearty reception which has been tendered us, through your Governor, in this the capital of the oldest of American States—the historic mother of American Presidents.

The recent progress of medical science has been marked by exceptional strides, both in the direction of extending the domain and perfecting the methods of operative surgery. May it not be worth while to avert, for a little, our admiring gaze from the contemplation of the triumphs of our art, to bestow a passing glance upon some of the causes which militate against the success of the surgeon, sometimes betraying him into error; again, embarrassing him in his choice between conflicting and perhaps opposite plans of treatment; and, too often, frustrating his best directed efforts.

Surgeons may be divided, roughly into two classes—the one

seeking to perform every practicable operation, the other avoiding operations whenever it is possible to do; the former class, including the bold, the enterprising, the ambitious, and the reckless men of our profession; the other the timid, the conservative, the cautious, and the procrastinating.

The former class is largely made up of young men, fresh from the schools, enthusiastic, full of the inspiration caught from Professors whose task it is to make the way seem clear and easy; students of the current medical literature, which teems with new suggestions, and is crowded with reports of remarkable cases and wonderful operations, generally ending, or reported as ending, happily to the patient and to the great credit of the reporter. Fired by the story of great difficulties encountered and vanquished by some great master, working under conditions exceptionally favorable to success, they burn to follow his example.

Simon excises a kidney, turns an aberrant ureter into the rectum, touches, through the natural passages, a stone in the kidney—and immediately hundreds of ambitious surgeons are seeking kidneys to excise, ureters to turn, and renal calculi to touch.

Battey removes an ovary for the relief of an obscure nervous disorder; and forthwith ovaries are extirpated for almost every imaginable nervous disease.

Billroth cuts out a cancerous larynx, or a diseased pylorus, and at once a demand springs up for similar cases, and the daring operations are repeated in all the four quarters of the globe.

The second class of surgeons is recruited largely from the first, but often only after many and bitter lessons of disappointment, drawn from the experience of many and grave disasters.

Fortunate is the surgeon, and happy his patients, if he have the wisdom to take such lessons to heart, and duly weigh and profit by them. Miserable his failure if, beginning his career in rashness, he end it only in cowardice.

The practice of seeking cases for operation, and of operating by blindly following the dicta of authority, without a full understanding of the condition to be relieved, is well illustrated by two surgical procedures which have been resorted to with far too great frequency, as I believe, by gynæcologists during the past and present decades. Of one of these procedures the division of the cervix uteri for

flexures, an operation without proper foundation in pathology, which was generally useless and often dangerous, and which always entailed deformity. Emmet holds the following energetic language: "Since the practice of indiscriminate division of the cervix was first introduced by Professor Simpson, more malpractice has been perpetrated throughout the world, in the name of this simple operation, than from any other procedure known to the profession." (*The Principles and Practice of Gynæcology*, by Thomas Addis Emmet, M. D., 1879, page 351.)

So, too, great wrong has been committed in seeking to follow the lead of the eminent gynæcologist just quoted, in the performance of operations for the cure of lacerations of the cervix uteri. From the very large number of operations which have been reported by many practitioners whose opportunities have not been unusual, it may be fairly concluded that the operation has often been needlessly and unprofitably performed.

A simple knowledge, however accurate it may be, of the parts involved in an injury, or in any operative procedure, is very far from qualifying a man to make an intelligent prognosis, to decide upon the advisability of the operation, or to treat judiciously or successfully even such diseases as consist mainly in pathological changes in the part in question, to say nothing of the many cases in which subjective symptoms, often of great severity, are referred to a particular part when they are, in fact, but the local expression of some remote or possibly constitutional trouble.

Herein lies a great danger, which has threatened and still threatens the profession, through the ill-considered adoption of exclusive specialties by physicians not well trained in general medicine. The specialist, whose attention is constantly directed to a single organ, will doubtless recognize earlier and more surely than another certain less marked and obscurer changes in that organ, and will also be able to avail himself of various instrumental aids to examination which demand special training for their successful employment. He must also acquire a skill in the application of local treatment, and in the execution of certain exceptionally difficult or delicate operations, which may make the difference between operative success and failure. Still it cannot be denied that the early and exclusive study of the affections of a part, and that often a very small

part of the body, has a tendency to narrow the intellectual grasp, and to cramp the powers of the man who yields to the influences incident to such partial and one-sided training.

In the best sense a specialist is a physician, and something more; in the worst, and I fear too frequent realization of specialism, he is something else and something less than a physician.

Sir James Paget has placed the whole medical profession under lasting obligations, by the publication of a portion of his own experience, as illustrating the dangers incident to surgical operations. Others, now and again, have dropped a word of value, as a warning against operative interference in the presence of certain special conditions; but so much more labor has been expended in the elucidation of the conditions in which operations are demanded, and in the setting forth of the manner of executing them properly, that these scattered words of warning are apt to be overlooked, until the attention is turned specially to them by some unfortunate personal experience, bringing home the dearly-bought lesson of error committed and precaution neglected.

The physician who passed the meridian of life, and who calmly studies his own career, cannot but find much cause for regret in his consciousness of mistakes and mismanagement in many individual cases. But let him not seek to comfort himself by the reflection, however truthful it may seem to be, that others wiser and better than himself, have committed as great or even greater blunders. Rather should he try to utilize his own errors by drawing from them the great lessons of humility for himself and of charity for his fellows.

Would that such charity were more general, to the end that by confessing our errors one to another we may the better provide against their repetition.

The rapid progress which has been made of late years in the precision and perfection of regional surgery; the brilliant triumphs secured, and the almost unlimited possibilities attained, combine to attempt surgeons to reckless and unjustifiable operative procedures. Captivated by the knowledge that almost every region of the body has been, and therefore may be, invaded, without necessarily destroying life, we are in danger of overlooking the general and constitutional influences which are ever present to modify and control

the results of injuries, whether accidental or inflicted deliberately, for a beneficial purpose.

The local conditions which call for the performance of surgical operations are besides, more easily studied, and are generally better understood by the young surgeon than the general conditions which may forbid them. They are, also, much more fully discussed in the text-books, and in the lectures delivered in our medical colleges. To learn what to do and how to do it, is always more attractive to the student than to be told what not to do; and this is especially true if the thing that ought not to be done is something which he believes that he can do well.

On the other hand, we recognize certain diseases and conditions, in which, however defective our knowledge may be in some respects, we are at least certain that very early operation is indicated, both as involving a minimum of risk and as offering the best, or perhaps only, chance of saving life, or of averting great calamity.

In this class we include tumors, benign, perhaps, in their essential characters, but threatening danger from their locality; also tumors of possibly malignant tendency, such as may exist for years in an apparently benign form and afterwards suddenly take on a malignant development, quasi-malignant tumors, such as, if removed thoroughly, may probably not return, and which are more likely to be thoroughly eradicated when removed early, and before they have attained a large size or have invaded regions in which it is dangerous to follow them—cancer—the accepted type of malignant disease, but varying greatly in malignancy in its different forms, furnishes an example.

The propriety of the early removal of quasi-malignant tumors is nowhere better illustrated than in a case of sarcoma of the choroid—a disease which, by the aid of the ophthalmoscope, can now be positively and accurately diagnosticated at a very early stage of development and at a period when there can be no thought of its having extended, by continuity of growth, beyond the isolated tunica vasculosa of the eye, where it has originated. Left to itself for a few months, it will surely break through the outer coat of the eyeball, and at no very distant period develop into a hideous and fatal tumor of the orbit, complicated, probably, with sarcomatous deposits in other and distant parts. Removed at an early stage of its growth by the

simple yet radical operation of enucleation of the eyeball, it may never return in situ, and life may be indefinitely prolonged, free from all traces of the deadly disease.

In rodent cancer, and in epithelioma, we now expect to effect a cure by excision, provided only that we are permitted to perform it early enough; and even that typical form of cancer, scirrhus of the mamma, every surgeon of large experience must have met with exceptional cases in which with reasonable certainty in diagnosis, removal of the gland has effected a permanent cure.

Sympathetic ophthalmia affords one of the most striking instances of the evil consequences which may result, either from not recognizing a danger in season, or from a want of promptness in dealing with it. An eye severely injured, so that its recovery as a useful organ of vision is impossible, appears, nevertheless, to improve, up to a certain point, so as to raise, and seemingly to justify the hope of at least saving it for cosmetic effect, and as a support to the eyelids. But presently vision begins insidiously to fail in the second eye, and a low and peculiar type of inflammation is developed in the iris and ciliary body, which defies all the known resources of surgery, and ends, after a few weeks or months, in blindness.

Scarcely any fact is better established than that a high condition of health, which fits a man for the most active out-door exercise, and enables him to endure without injury great exposure and bodily fatigue, which is sustained by a full and generous diet, with perhaps a moderate and regular indulgence in alcoholic stimulants, and which implies the greatest activity of the digestive, assimilative and excretory organs, is not the condition which best fits him to bear the forced confinement, the impaired digestion, the imperfect assimilation, and the perverted excretion which follow any serious bodily injury or grave surgical operation. In such patients we have learned to dread surgical fever and active inflammatory complications, leading possibly to septicæmia and ending, it may be, in death.

So, too, that standard of health which is marked by an unusual ability to bear continuous mental strain, taxing the digestive and assimilative organs to their utmost, is not that under which the effects of shock are best borne, whether it be the shock of a severe injury or of a capital operation.

On the other hand, we know that a man whose life is not marked by excessive tissue-change, whose digestive, assimilative and excretory organs are not unduly taxed to repair the waste and to remove the products of rapid tissue—disintegration, and whose nervous system is not attained to conditions of intense and prolonged mental strain, is likely to bear well both the shock of injury, and the nutritive changes incident to prolonged confinement.

Again, the chronic sufferer from disease of an exhausting character, whose nutritive and excretory organs have become educated, so to speak, to make good the excessive waste incident to any continuous drain, is often much better fitted to endure even a grave surgical operation than is the new recruit in the army of sufferers.

Very often the surgeon is compelled to act in the presence of morbid conditions of the most complex character—conditions which act and react upon each other in a vicious circle, steadily depressing the vital powers, until death ends the scene or the circle is broken at some vulnerable point, and the system is again brought under the effective operation of the recuperative forces by which health is maintained and restored.

Thus in the case of strumous manifestations, appearing in connection with chronic suppurative disease of the joints and bones, the drain of the profuse local discharge makes the most exacting demands upon the nutritive functions, while at the same time, the close confinement, pain and loss of sleep, unite to destroy the appetite, and impair digestion and assimilation. In such a condition (as has been so clearly set forth in the case of hip disease by our distinguished ex-President, Dr. Sayre), we recognize in the cachexia the effect, rather than the cause, of the local trouble, and by the resection of the diseased joint, or by the amputation of the offending limb, we may at once arrest the exhausting discharge, relieve the wearing pain, and restore the disturbed balance between the processes of nutrition and waste.

The dangers in certain depraved conditions of the body, from injudiciously delaying the execution of an operation, are clearly and forcibly depicted by Robert Barnes. He says: "My experience leads me to conclude that in cases of urgent disease there is more frequent occasion to regret having delayed the operation too long than having had recourse to it too soon, when through obstinate

vomiting, for example, nutrition has long been arrested, the starved tissues, craving for supplies and falling into disintegration, feed the blood with depraved and noxious materials; the system feeds upon itself and poisons itself, the poisoned blood irritates the nervous centres, and these centres, wrought to a state of extreme morbid irritability, respond to the slightest peripheral, uterine or emotional excitation. All nervous energy is thus diverted from its natural destination and exhausted in destructive morbid action. Irritative fever ensues; the pulse rises to 140 or more; no organ of the body is capable of discharging its functions, for the pabulum of life is cut off at its very source. At this point labor, whether it occurs spontaneously, as it often does, or be induced artificially, comes too late. The tissues are altered, the powers are impaired beyond recovery, and death soon follows." (Lectures on Obstetric Operations, by Robert Barnes, 1871, page 376.)

Shock may act profoundly upon the whole economy by arresting the whole circle of nutritive and excretory processes. Arrested digestion, perverted assimilation, impaired nutrition, suspended secretion, and limited excretion may concur to impoverish and vitiate the nutritive fluids of the body. Elements which should go to feed the tissues and provide the materials for the various secretions, remain unappropriated, excrementitious substances, products of the retrograde metamorphosis of the tissues, accumulate, and the body become gradually saturated with effete matters, already far on their way toward the simple chemical forms which are their ultimate destination, and prone to take on fermentative and putrefactive changes.

Operations undertaken for the relief of patients suffering from old and tight urethral stricture, complicated as it is apt to be with disease of the kidneys, affords a striking illustration of the serious consequences which may follow shock in an already diseased organism. The internal division, or the forced dilatation of such a stricture, may be attended with a degree of shock sufficient to arrest, for the time, the heart's action, and thus produce alarming syncope; or it may so act upon the whole nervous system as to check secretion and excretion generally. The diseased kidneys may thus cease altogether to perform their functions, leading to speedy death from uræmic poisoning; or in the case of less aggravated renal trouble,

the blood becoming surcharged with morbid material, may no longer suffice to maintain the nervous centres in effective action—assimilation, secretion and excretion may all fail, and death ensue from septicæmia.

Anæmia, resulting from a sudden and considerable loss of blood, may give rise to a state of things particularly unfavorable to surgical interference. Besides the actual deficiency in the pabulum needed to sustain the processes of repair, the diminished tension of the blood vessels favors the absorption of septic products at the site of the injury, while the blood, diluted and vitiated by the addition of fluids absorbed from the tissues, becomes loaded with effete organic matter ready to take on putrefactive changes.

A familiar instance of susceptibility to septic influences, after a large loss of blood, will occur to every obstetrician who has learned from painful experience how often metritis and septicæmia follow excessive post partem hemorrhage.

In an address as brief as this needs must be it would be impossible to touch upon all the conditions which demand or which may forbid, a resort to the knife; but there is another and better reason for the omission than want of space, and that is our want of exact knowledge.

Especially is this true of those constitutional conditions whose existence we but too painfully realize and of whose essence we know so little—diathesis.

Using the word in its broadest sense, we may define a diathesis, as any condition, varying from the normal standard of health, which disposes to the development of disease in the presence of trivial, exciting causes.

Under this name we include, therefore, a multitude of latent tendencies to disease, either inherited or the result of external conditions; tendencies which may, perhaps, never manifest themselves by any outward sign, and yet, under the operation of some fortuitous exciting agency, may feed the spark and develop a disastrous conflagration.

Other conditions which we habitually include under diathesis are themselves diseases. Scurvy, for instance; arising under conditions of deprivation of fresh animal and vegetable food, and of prolonged exposure conjoined with excessive fatigue. The scrofulous

habit ; engendered in children by bad feeling (leading to indigestion and mal-assimilation), by confinement in damp, ill-ventilated rooms, etc. Tuberculosis ; naturally following struma, and appearing in connection with the breaking down, transportation and deposition, in new sites, of imperfectly-formed products of inflammation. Syphilis ; both in its inherited and acquired forms.

A diathesis may be transient or permanent, retrogressive or progressive ; it may be so marked in its manifestation as to force its recognition upon even the most careless observer, or it may be so obscure as to elude the most painstaking scrutiny, and yet, however faint the previous indications of its presence, it may respond immediately and disastrously to an injury, or to the touch of the surgeon's knife.

In acknowledging our ignorance regarding the precise nature of such variations from the normal standard of healthy tissue as we believe must exist in diseases like scurvy, scrofula, tuberculosis and others equally familiar, to say nothing of the many unnamed conditions, whose distinctive symptoms have not yet been adequately studied, we recognize the existence of wide, uncultivated fields, rich, no doubt, in promise to future investigators. A more perfect animal chemistry, a more thorough histology, and a deeper search into the subtle possibilities of pathological change, will doubtless throw many a ray of light into regions where the darkness is now too dense for our vision to penetrate. To these fields, coming generations of physicians will surely be attracted, in the faith that as man advances in knowledge, and approaches somewhat nearer to the comprehension of the perfect wisdom which designed the wonderful physical organism through which he is brought into relation with the world around him, he will be enabled to solve more and more of the difficult problems which now perplex and baffle us, and will gradually raise medicine to a position more nearly akin to that now accorded to the exacted sciences.

On motion by Dr. Brodie, of Detroit, the thanks of the Association were extended to the President for his able and interesting address, and a copy requested for publication in the Transactions.

Dr. Joseph H. Warren then presented his report from the delegation to foreign medical societies, which was referred to the Committee on Publication.

The Association then adjourned to meet on Wednesday morning, May 4th at 10 o'clock.

WEDNESDAY, MAY 4TH—SECOND DAY.

The Association was called to order at 10 A. M. by the President, and prayer was offered by Rev. Joshua L. Peterken, D. D.

COMMITTEE ON NOMINATIONS.

The Secretary announced the following as the Committee on Nominations: Alabama, W. C. Cross; Arkansas, W. B. Welch; California, R. Beverly Cole; Connecticut, G. A. Shelton; Georgia, T. S. Powell; Iowa, J. C. Stone; Illinois, H. C. Reno; Indiana, W. Lomax; Kansas, C. V. Mottram; Kentucky, D. B. Greenlee; Maine, F. E. Hitchcock; Massachusetts, J. H. Mackie; Michigan, W. Brodie; Minnesota, A. J. Stone; Mississippi, W. G. Stone; Maryland, H. P. C. Wilson; Missouri, T. B. Lester; North Carolina, E. Grissom; New Hampshire, M. C. Lathrop; Ohio, Alexander Dunlap; Pennsylvania, W. J. Asdale; New Jersey, A. Coles; Rhode Island, Ariel Ballou; South Carolina, R. A. Kinloch; Tennessee, D. J. Roberts; Texas, C. L. Gwynne; New York, A. C. Post; Vermont, H. D. Holton; Virginia, O. F. Manson; West Virginia, James E. Reeves; Wisconsin, J. K. Bartlett; District of Columbia, J. Ford Thompson; U. S. N., J. M. Browne; U. S. A., John H. Janeway; U. S. Marine Hospital Service, George Purviance.

Dr. J. M. Toner then read the report of the Committee on Nomenclature, which was referred to the Committee on Publication.

The hour for the special order having arrived, action was taken on the following proposed amendment to the Code of Ethics, Article 1, paragraph 1, add, "and hence it is considered derogatory to the interest of the public and honor of the profession for any physician or teacher to aid in any way the medical teaching or graduation of persons knowing them to be supporters and intended practitioners of some irregular and exclusive system of medicine."

A motion made by Dr. H. O. Marcy, of Massachusetts, to postpone its consideration indefinitely was lost—ayes, 74; nays 76.

The question recurring on the adoption of the proposed amendment, Dr. E. S. Dunster, of Ann Arbor, argued against it, and Dr. N. S. Davis, of Chicago, moved that the further consideration of the subject be postponed until to-morrow, at 12 o'clock, which was opposed by Dr. Howard, of Baltimore, favored by Dr. Moore, of North Carolina, and carried by the Association.

ADDRESS IN MEDICINE.

Dr. William Pepper, of Philadelphia, Chairman of the Section, then delivered his address, in which he devoted himself to the consideration of the great importance of local lesions, especially catarrhal inflammation of mucous membranes, as forming the cause of many apparently obscure diseases, and also as adding greatly to the danger of many diseases which all now regard as due exclusively to the presence of some specific poison in the blood. He dwelt on the present tendency, which he thought exaggerated, to assume the existence of blood-poisoning, and on the injury that is apt to result in practice from regarding disease in so many instances as a special self-limited process, pursuing a definite course, and practically uninfluenced by remedies. This theory will lead us to the dependence on the merely supporting and inactive treatment, and to the neglect of the minute care in looking for and treating local affections that is so essential to the highest practical success. Dr. Pepper illustrated this, especially, by reference to typhoid fever, dysentery, and rheumatism. Allusion was also made to the importance of seeking for remedies possessing special antidotal power against the great epidemic or contagious diseases, such as diphtheria, the eruptive fevers, etc. In a few instances such specific remedies have been discovered, and reference was made to the remarkable results which have recently been observed in the treatment of grave cases of diphtheria by the use of large doses of the bichloride of mercury. Without accepting those results as conclusive, they must be regarded as most encouraging.

A careful discussion then followed as to the large part played by chronic irritations of mucous membranes in the production of nervous disturbances and the impairment of vital powers. Ample illustration might be drawn from dyspepsia caused by intestinal irritation. Again, he spoke of the part played by such chronic

irritation in maintaining a peculiar extended fever which resists all treatment until the local trouble is sought out and removed. Such cases are not rarely mistaken for malarial fever, and the excessive use of quinine then is not infrequently irritative and mischievous. Finally, reference was made to the part played by such local causes in producing morbid accumulations that might undergo changes, and infect the system with the most fatal poisons. The most frequent and impartial instances of these are found in the development of pulmonary consumption from neglected or imperfectly cured catarrhal affections of the lungs. In this connection he stated that phthisis is not a self-limited disease, and to so regard it was to ignore all pathological teaching.

ADDRESS ON OBSTETRICS AND GYNECOLOGY.

Dr. Jas. R. Chadwick, of Boston, Chairman of the Section, reviewed the progress made in the publication of obstetrical and gynecological literature from the year 1876 to 1881, and the result showed that the periodicals in this department have increased in America from 3 to 6; in France from 4 to 6; in Germany from 2 to 3; in Belgium, Italy, and Denmark each a new periodical has been established, and in Great Britain the number remains unchanged; total increase from 13 to 22.

The increase in the number of obstetrical and gynecological societies during the same years has been from 16 to 22. In America the increase has been from 6 to 11, and our number now is equal to that in all the rest of the world. But the membership of the American societies is less than that of those in Great Britain and other countries, and for reasons which are obvious.

The two most prominent exponents of our branch in America, *The American Journal of Obstetrics* and the *Transactions of the American Gynecological Society*, present a more happy blending of scientific facts and practical suggestions than is found in any other special gynecological or obstetrical journals in the world.

Dr. Fred Horner, of Virginia, moved that in the morning session for Thursday the question of establishing a Medical Aid Society be brought before the Association. Carried.

REPORT OF THE COMMITTEE ON JOURNALIZING THE TRANSACTIONS.

Dr. John H. Packard, of Philadelphia, read the report, which was elaborate and carefully prepared, and, in closing, submitted the following resolution :

Resolved, " That a committee of five be appointed, whose duty it shall be to digest and report in detail, as early as possible, a plan for the publication of a weekly journal by the Association, the nomination of an editor, his salary, and the time and place of publication of such journal."

On motion by Dr. N. S. Davis, the resolution was so amended as to leave out the nomination of an editor.

On motion by Dr. J. M. Toner, the Secretary and the Treasurer were added to the committee.

On motion by Dr. H. O. Marcy, the committee was made to consist of the members of the old committee, who were in attendance upon the present meeting, and that the President appoint others to make the number required by the resolution as amended.

The report read by Dr. Packard was also signed by Drs. S. D. Gross, J. S. Wetherlee, E. S. Dunster, and W. R. Gillette.

On motion by Dr. Toner, the Secretary was instructed to publish, in the forthcoming volume of the Transactions, a general index of all the transactions.

Drs. W. J. Lumsden, and I. N. Butt, of North Carolina, were elected members by invitation, after which the Association adjourned, to meet on Thursday morning at 10 o'clock.

THURSDAY, MAY 5TH—THIRD DAY.

The Association met at 10 A. M., and was called to order by the President.

Prayer was offered by Rev. W. E. Hatcher.

The Chairman of the Committee of Arrangements, Dr. Cunningham, announced the reception of a communication from Dr. Jane-way, of New York, which was referred to the Judicial Council.

He also announced that Dr. A. Jacobi, Chairman of the Section on Diseases of Children, would deliver his address before the Section this afternoon, instead of before the Association in general session.

Dr. S. D. Gross asked for a suspension of the regular order of business, that he might take the steps necessary to the formation of a "Section in Dentistry."

Permission was granted, but the Association refused to suspend the rules further, and the question, therefore, went over for one year.

The President announced as the Committee on Journalizing the Transactions, Drs. John H. Packard, N. S. Davis, J. S. Billings, L. A. Sayre, and R. Beverly Cole, with the Treasurer and the Secretary.

ADDRESS IN SURGERY.

Dr. Hunter McGuire, of Richmond, Chairman of the Section, restricted his remarks to the consideration of gun-shot wounds in the abdomen: In many of the cases of penetrating wounds of the peritoneum, the ball passes obliquely through the abdominal wall, and the aperture shuts up like a valve, or if passing directly through the parietes, the aperture of entrance contracts at once and closes. To all intents and purposes the cavity is hermetically sealed, and the missile, pieces of clothing, blood from wounded vessels, fecal effusion, if the intestine is wounded, and inflammatory products are all hopelessly imprisoned there. Can it be wondered at that such wounds are fatal? In no other gun-shot wounds of cavities do we allow the wound of entrance and exit to be closed. Who would think of shutting up the opening in gun-shot wound of the knee joint? During the late war, the plan of hermetically sealing up wounds of the pleura, a structure analogous to the peritoneum, proved most disastrous. In gun-shot wounds of the chest involving the serous membrane, we keep the wound patent, and if not dependent we do not hesitate, when effusion takes place, to make a counter-opening with a knife or trocar, and sometimes to flush out the cavity with detergent and antiseptic lotions. In view of these facts, the writer ventures to advocate operative interference in gun-shot penetrating wounds of the peritoneum with intestinal injury, in penetrating wounds of the peritoneum with any visceral lesion, and similar cases without visceral injury. The wounds in the abdominal walls should be enlarged, or the linea alba opened freely enough to allow a thorough inspection of the injured parts. Hem-

orrhage should be arrested. If intestinal wounds exist, they should be closed with animal ligatures, trimming their edges first if they are lacerated and ragged. Blood and all other extraneous matter should be carefully removed, and then provision made for drainage. If the wound of entrance is dependent, drainage may be secured by keeping this open. If the wound is a perforating one, and the aperture of exit dependent, the patency of this should be maintained, and, if necessary, a drainage-tube of glass or other material introduced. If there is no wound of exit, and the wound of entrance is not dependent, then a dependent counter-opening should be made and kept open with a drainage tube. If it is urged that the means suggested are desperate, it can be said in reply that the evil is desperate enough to justify the means.

After the reading of Dr. McGuire's address, Dr. John S. Billings, of Washington, presented some of the results of the tenth census as regards mortality statistics.

Early in the census year forms were prepared for a small register of deaths to be kept by physicians.

Each register contained twenty-four slips, and a copy of the register, with a stamped envelope for its return at the end of the census year, was sent to every one in the United States who was reported by his or her postmaster to be a physician, or to be addressed as such.

The first rough count shows that about 620,000 deaths have been returned upon these schedules. To these there will be added from the register slips above described about 50,000 deaths, and the records of the cities from which no enumerator's schedules are received will add about 80,000 more, making a total of about 750,000 deaths returned for the year, which, for a population of 50,000,000, gives a death rate of 15 per thousand. While it is certain that this does not include all the deaths, it is evident that it is much more complete than previous censuses—the total number of deaths for that of 1850 having been 323,098, being a mortality rate of 13 9.10 per thousand. In 1860 there were returned 394,153 deaths being a mortality rate of 12 5.10 per thousand. Upon this last Prof. Elliott constructed life table, assuming a deficiency in returns of deaths of 41 per cent., or in other words, that the true death-rate was a little over 18 per thousand. If this were assumed as the

true death-rate for the last census year, the deficiency in returns would be less than 10 per cent.

From this brief statement it will be seen that General Walker is to be congratulated upon the improvement which has been effected in the tenth census in regard to the completeness of the mortality statistics, and also that the medical profession of the country has contributed largely to the securing of this relative completeness.

QUESTIONS OF PRIVILEGE.

Dr. Lewis A. Sayre rose to a question of privilege and asked that the minutes of the Association be so amended that it would appear that the protest which he entered against the resolution adopted in the Surgical Section, at the annual meeting held in Chicago in 1877, relative to shortening in fractures of the long bones, was sent to the President of the Association and not to a Chicago newspaper as charged by Dr. Frank H. Hamilton, in the last number of the *Medical Record*.

Dr. Hodgman, of New York, said that he carried the message for Dr. Sayre, who was sick, and delivered it to the Secretary, who, in his presence, handed it to the President.

The Association accepted the explanation and granted permission that the amendment be made.

Dr. J. M. Keller also rose to a question of privilege, and stated that at the same meeting he also entered his protest against the resolution referred to, which was offered by Dr. Peck, of Iowa, and also presented his protest in writing, signed by Drs. E. T. Easley, Irvin Keller, and himself, and yet no record of it appeared in the notes of the Secretary of the Section as published in the Transactions. He asked that those gentlemen and himself be placed upon the record correctly, and permission was granted to make the necessary addition to the proceedings to secure that end.

Dr. N. S. Davis, of Chicago, then read the report on Clinical Observations and Records.

At present we have no test by which we can detect the presence of ozone with a reasonable degree of scientific accuracy, yet it does not follow that all previous labor has been of no value, for the reason that active oxidizers have been found, the influence of which is not yet understood. He concluded with the distinct recommendations :

First. That a committee of five be appointed by the President of the Association, to be called the Standing Committee on "Atmospheric Conditions and their Relations to the Prevalence of Diseases."

Second, That that committee be authorized to select such places as will best indicate atmospheric conditions in the more important climatic and sanitary districts of the United States, not less than six nor more than twelve, and establish therefor a means for continuous observation and record of all appreciable conditions of atmosphere, according to the most approved methods, and of the origin and prevalence of all acute diseases.

Fifth. That the committee, through their chairman, be authorized to draw upon the Treasurer of this Association for such sums as may be found necessary for the proper execution of the work assigned to it, the aggregate amount not to exceed \$500 during the ensuing year, and that a detailed report of all sums drawn and expenditures made must be presented at the next annual meeting of the Association.

The report was signed by Drs. N. S. Davis, J. M. Toner, and H. O. Marcy. It was accepted and the recommendations were adopted.

Dr. William Brodie then read his report from the delegation to the Canada Medical Association.

REPORT OF THE COMMITTEE ON NOMINATIONS.

The committee reported as follows :

For President.—J. J. Woodward, M. D., of Washington, D. C.

For First Vice President.—P. O. Hooper, M. D., of Arkansas.

For Second Vice President.—Leartus Connor, M. D., of Michigan.

For Third Vice President.—Engene Grissom, M. D., of North Carolina.

For Fourth Vice President.—Hunter McGuire, M. D., of Richmond, Va.

For Secretary.—W. B. Atkinson, M. D., of Philadelphia, Pa.

For Treasurer.—R. J. Duglison, M. D., of Philadelphia, Pa.

For Librarian.—William Lee, M. D., of Washington, D. C.

For Vacancies in the Judicial Council.—S. N. Benham, M. D., of Pittsburg; J. M. Toner, M. D., of Washington; Daniel A.

Linthicum, of Arkansas; William Brodie, M. D., of Detroit; Henry D. Holton, M. D., of Vermont; A. B. Sloan, M. D., of Missouri and R. Beverly Cole, M. D., of California.

The Next Place of Meeting.—St. Paul, Minn.

For Chairman of the Committee of Arrangements.—A. J. Stone, of St. Paul.

Dr. J. S. Billings, U. S. A., moved the adoption of the report, and thanked the committee in behalf of the Medical Staff of the Army, for the high compliment paid it in the selection of one of its most honored members for the highest position in the gift of the Association.

Dr. J. M. Toner from the Judicial Council, directed the attention of the Association to the by-laws concerning delegateship, and the societies and organizations entitled to representation, to the end that a more uniform representation may be secured.

The hour for the special order having arrived, Dr. Davis took the floor, and spoke in favor of the proposed amendment to the Code.

Dr. Martin, of Massachusetts, opposed the amendment.

Dr. Dunster replied to Dr. Davis.

Dr. Marcy moved to lay the subject upon the table indefinitely, and the motion was lost: ayes, 106: nays, 108.

On motion by Dr. Davis it was made the special order for Friday morning, immediately after the preliminary exercises of the session.

The following amendment to the by-laws, proposed by Dr. J. M. Keller, of Arkansas, was then adopted: "In the election of officers and appointment of committees by this Association and its President, they shall be confined to members and delegates present at the meeting, except in the Committee of Arrangements."

The Association then adjourned to meet at 10 A. M., Friday, May 6th.

FRIDAY, MAY 6TH—FOURTH DAY.

The Association was called to order at 10 A. M., by the President. Prayer was offered by Rev. Charles Read, D. D.

The Secretary announced the following Committee on "Clinical Observations and Records" as appointed by the President: Dr. N.

S. Davis, Chicago ; Dr. J. M. Toner, Washington, D. C. ; Dr. H. O. Marcy, Boston, Mass. ; Dr. W. H. Geddings, Aiken, S. C. ; Dr. S. M. Bemiss, New Orleans.

AMENDMENT TO THE CODE.

The Association then resumed the consideration of the amendment to the Code of Ethics.

Dr. Billings, of Washington, offered the following substitute for the proposed amendment :

“ It is not in accord with the interest of the public or the honor of the profession that any physician or medical teacher should examine or sign diplomas or certificates of proficiency for, or otherwise be specially concerned with, the graduation of persons whom they have good reason to believe intend to support and practice any exclusive and irregular system of medicine.”

Dr. Davis seconded the substitute.

The previous question was ordered, and the substitute declared adopted by a three-fourths vote.

REPORT OF THE COMMITTEE ON NOMINATIONS.

The Committee on Nominations made the following supplementary report :

Section in Practice of Medicine.—Chairman, Dr. J. A. Oetertony, Louisville, Kentucky ; Secretary, Dr. D. J. Roberts, Nashville, Tenn.

Section in Surgery and Anatomy.—Chairman, Dr. J. C. Hughes, Keokuk, Iowa ; Secretary, Dr. William A. Byrd, Quincy, Illinois.

Section in Obstetrics.—Chairman, Dr. H. O. Marcy, Boston, Mass. ; Secretary, Dr. C. V. Mottram, Lawrence, Kansas.

Section in Medical Jurisprudence and State Medicine.—Chairman, Dr. A. L. Gihon, Washington, D. C. ; Secretary, Dr. J. H. Sears, Waco, Texas.

Section in Ophthalmology, Otology, and Laryngology.—Chairman, Dr. D. B. St. John Roosa, New York, N. Y. ; Secretary, Dr. J. Solis Cohen, Philadelphia, Pa.

Section in Diseases of Children.—Chairman, Dr. S. C. Busey, Washington, D. C. ; Secretary, Dr. William Lee, Baltimore, Md.

Section in Dentistry.—Chairman, Dr. D. H. Goodwillie, New York, N. Y. ; Secretary, Dr. P. W. Brophy, Chicago Ill.

For Committee on Necrology.—The same as properly constituted, with the following : E. R. Duval, C. H. Pinney, G. P. Conn, B. F. Kittrell, D. B. Wallace, J. B. Lindsley, A. J. Stelle, J. H. Kidder, W. J. Bates, H. M. Barnes, J. W. Jones, E. M. Snow.

For Committee on Publication.—The present committee was continued.

For Assistant Secretary.—Dr. Charles R. Boardman, of St. Paul, Iowa.

The Committee on State Medicine was continued.

On motion, the report, as a whole, was unanimously adopted.

On motion of Dr. E. Grissom, the honorarium of last year was continued to the Permanent Secretary.

Dr. D. G. Goodwillie, of New York, offered an amendment to the constitution, making provision that permanent members, as well as delegates, be entitled to vote.

THREE VIEWS OF A CONSULTATION.

Bulwer says in one of his novels, in defining a medical consultation, that a consultation is a meeting of physicians in which the counselors agree with the attending physician, and change the treatment.—*Cincinnati Lancet and Clinic*.

A single Doctor like a sculler plies,
The patient lingers and, by inches dies.
But two physicians, like a pair of oars,
Waft him with swiftness to the Stygian shores.

—*Jeafferson's Book About Doctors*.

A consultation means that two persons, holding views in some way comparable, adopting principles assimilable, and acting upon lines which may somewhere be made to converge, meet together for the purpose of deciding what is best to be done, under the circumstance, in a case to which these laws and this practice are applicable.—*British Medical Journal*.

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MICHIGAN STATE BOARD OF HEALTH.

The regular quarterly meeting of this Board was held at Lansing, Tuesday, April 12, the following members being present: Rev. D. C. Jacokes, of Pontiac; Henry F. Lyster, M. D., of Detroit; Arthur Hazlewood, M. D., of Grand Rapids; and Henry B. Baker, M. D., Secretary.

Dr. Lyster was elected President *pro tem*.

A letter from Prof. Kedzie, President of the Board, announced his decision to decline the reappointment as a member of the Board, for the reason that his duties as Professor at the Agricultural College were such as, in the opinion of members of the Board of Agriculture, would prevent his giving that attention to the work of the Board of Health which he had heretofore done. His communication outlined the great progress in public health measures in this State since the organization of the State Board of Health eight years ago. He saw with pride that nearly every city, village, and township in the State now has its Board of Health and health officer. Kerosene explosions, so common eight years ago, have forever been banished. Everywhere in the State there is evidence of an advance in the stamping out of infectious diseases. The ventilation of churches, school houses and dwellings now receive an attention never known before. The water in our wells, the drainage of farms, and the sewerage of houses have all been brought into prominence by the labors of the Board. In this work the Board had been greatly assisted by the public press, but the press itself has been stimulated by the work of the Board. In short there has been a general advance along the whole line, but we have kept such even step in this advance that we only become aware of our changed position by comparison with the landmarks of eight years ago. Last, but not least, among the agencies set in motion for the public health, he noticed the sanitary conventions for discussion with the people of all matters relating to their physical well-being. He believed they were fraught with inestimable good to the people of our State. The forces which are thus set in motion are not temporary in their influence, but will flow on in a stream of blessings to the end of time. The information gathered by the Board needs to be scattered broadcast among the people. New and original

investigations into the nature of contagious diseases, and the means for arresting them, need to be undertaken and pushed forward by the Board. The information gathered will be of small benefit if imparted to only a few. The State cannot afford to hide this light under a bushel.

In bidding farewell to the State Board of Health, Dr. Kedzie gave the assurance that he did so with the kindest feelings towards all its members, and with an earnest wish for its highest prosperity and usefulness.

Resolutions were passed expressing extreme regret at the necessity which compelled Dr. Kedzie to decline to serve longer with the Board ; also, expressing the high appreciation of the Board for the eminent labors of Prof. Kedzie in the interests of the public health of the State. The election of his successor as President was postponed until the next meeting of the Board.

THE FILTH OF OUR CITIES.

The Secretary presented a communication from C. H. Voute giving statistics of the filth removed from privies and cesspools in various places in the State by means of the odorless excavating apparatus. During the time—about a year—the number of tons removed, is, approximately, as follows : East Saginaw, 850 ; Bay City 580 ; Lansing, 93 ; Charlotte, 61 ; Jackson, 151 ; Ionia, 78 ; Flint, 118 ; Battle Creek, 60 ; Kalamazoo, 258 ; in the State about 2,300 tons, or 15,000 barrels, and of that amount but 2,000 barrels could be pumped out, the remainder being removed by the “pitting” process, showing the liquid portion had mostly drained off into the soil, which must be saturated with filth, and as a consequence many wells must be contaminated.

OIL INSPECTIONS.

Communications had been received from different parts of the State, stating that it was customary for deputy oil-inspectors to inspect a few barrels of oil from a car load and brand as “approved” and collect pay for inspecting the whole car load. One of the statements was that the inspector did not test every barrel even when his test showed at least three different grades of oil in the car load. The questions were, whether this was an honest

fulfilment of the law, and whether the public safety is thus conserved. The Secretary was directed to take action for ascertaining.

SICKNESS CAUSED BY PUTRID MEAT.

A letter was presented from John Mulvany, M. D., Surgeon in the British Navy, detailing the effects of food rendered unwholesome through putrefactive taint. All of the crew of a large merchant vessel that put into the Falkland Islands, who ate of pork opened on a certain day became ill, and the illness continued until the ship was disabled and medical assistance was sought for in the Falkland Islands. There it was found that not only the pork but the beef was bad, and the meat was condemned by a board of surveying officers. Seven of the affected died, and *post mortem* examination revealed immense effusion into the pericardium, a stench from the brain and congestion at the point of the calamus scriptorius in the fourth ventricle, with congestion of the jejunum and ilium. During life the chief symptoms were paralysis of the hands and feet, and agonizing pains in the toes; uncontrollable sleeplessness, loose bowels, stench from the skin, etc. Symptoms entirely *sui generis*.

The Board requested Dr. Mulvany to present a complete account of the sickness.

DISEASES OF ANIMALS.

A letter was presented from A. J. Murray, U. S. Secretary of the State Cattle Commission, relative to the desirability of collecting statistics of deaths from contagious diseases of animals in all parts of the State. This work might properly have been done by the State Cattle Commission, if it had any funds, but a bill granting them an appropriation of \$500, which was passed by the Senate was defeated in the House of the present Legislature.

Letters were also presented relative to glanders in Clinton and in Shiawassee counties.

SANITARY CONVENTIONS.

Invitations to hold sanitary conventions during the coming winter were accepted from Coldwater and Ann Arbor.

DETROIT BOARD OF HEALTH.

Dr. Lyster, chairman of the special committee of the Board, to

devise a plan for a Board of Health for the city of Detroit reported that he had in consultation with the city attorney and other citizens drawn up a bill providing a practical and scientific Board of Health for that city, and the bill was now before the Legislature.

SANITARY SCIENCE EXAMINATIONS.

The annual examination of applicants in sanitary science will be held Tuesday, July 12, 1881; it was voted that the examination should be written and that each member should submit ten questions not heretofore asked, and on subjects connected with this work as regular committees. Candidates successfully passing the examination will receive certificates that they are qualified to act as health officers in any city, village, or township in the State.

CONTAGIOUS DISEASES.

It was decided to print revised editions of the documents on the restriction and prevention of each of the three diseases, diphtheria, scarlet fever, and small pox. Arrangements were also made for the translation of these documents into the Holland and German languages.

" WINTER CHOLERA."

The Secretary reported the prevalence of a peculiar type of diarrhoea in some portions of the State during the past winter. The fact of its greater prevalence in the southern portions of the State, and that cases have been reported from two State institutions and from towns in the northern part of the State, dependent upon Chicago and southern Michigan for their food-supplies might indicate a connection between the sickness and the use of oleomargarine, butterine, products of diseased pork, or meat, or other food.

The next regular meeting of the Board will be Tuesday, July 12, 1881.


LOUISVILLE MEDICAL NEWS.—The career of this Journal was not interrupted by the death of its brilliant editor, Dr. R. O. Cowlings, but is conducted with unabated ability by Dr. J. W. Holland.

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED
IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

 *Original communications are solicited from all parts of the country, and especially from the medical profession of THE CAROLINAS. Articles requiring illustrations can be promptly supplied by previous arrangement with the Editor. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the JOURNAL, by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to THOMAS F. WOOD, M. D., P. O. Box, Wilmington, N. C.*

IN MEMORIAM.

At the regular monthly meeting of the New Hanover County Medical Association, in May, the following memorial of the decease of our late friend and brother was adopted, and ordered to be printed in the NORTH CAROLINA MEDICAL JOURNAL:

Moses John DeRosset, M. D.

On Sunday, the 1st of May, our esteemed friend, surrounded by anxious and grief-stricken family, was mercifully relieved from his bodily suffering. For many weary months he had been conscious that he was stricken with incurable disease, and that the career he had begun so brilliantly, was about to end in prolonged disability of mind and body. To him death was a blessed visitor, bringing to him not only release from the torture of dyspnoea and constantly impending suffocation, but a hope of blissful immortality.

Dr. DeRosset was born in Pittsborough, N. C., on the 4th of

July, 1838. His early academic training was in the city of Geneva, Switzerland, where at the early age of 16 he was placed in Diedrich's academy. As a youth he showed remarkable aptitude for the languages and mathematics, and his acquisition for German and French was rapid and permanent. He passed three years in Geneva, and in order to perfect himself in German, he spent six months in Cologne.

On his return from Europe in 1857, he made choice of medicine as a profession.

His early adoption of the profession of medicine seemed to have been determined by the successful medical career of his ancestors. Several generations of his family had been prominent medical men. Even as far back as 1590 Francois Rosset was the author of the high operation for stone, and gave to the world his work entitled, "A Treatise on the High Operation for the Stone."

In 1858, under the private pupilage of Dr. Gunning S. Bedford, Dr. DeRosset entered the medical department of the University of New York, graduating in 1859. He was then 21 years of age. His application to his studies at the University hardly warranted the handsome way he acquitted himself in his examinations. It was apparent at the end of his medical course that he had taken a stand of admitted superiority. His examination for position of resident physician at Bellevue Hospital, New York, resulted favorably, and he entered upon his duties there in 1859. His life at Bellevue Hospital was of vast service to him in after life. It was there he came in contact with the great masters, receiving the stimulus of their achievements, and grasping with avidity everything of value. He came out of Bellevue with an educational development far beyond the average of men of his age. He entered the Confederate army as an Assistant Surgeon, and served as medical officer of Marye's artillery battery, through Stonewall Jackson's famous campaign in the Valley of Virginia.

Life in the field was but little to the liking of an habitual student, and he sought his first opportunity to get transferred to Richmond. He was promoted to the rank of Surgeon in 1863, and assigned to duty at General Hospital No. 4, (Officer's Hospital.) At one time during his service there he was detached as Inspector of Hospital of the Department of Henrico.

After the end of the war he removed to Baltimore, where he was appointed adjunct to the Professor of Chemistry, in the Medical Department of the University of Maryland. He was also Professor of Chemistry in the Dental College in that city.

During his residence in Baltimore he prepared himself for the practice of Diseases of the Eye and Ear. In this specialty he achieved brilliant success. In 1873 he removed to his native town where he devoted himself to the practice of his specialty, avoiding as much as possible all general practice. His long preparation in general practice specially fitted him for success in a branch of medicine, whose only safe foundation rests upon a thorough knowledge of the science and art of medicine and surgery.

It was during his residence in Wilmington that the NORTH CAROLINA MEDICAL JOURNAL was projected, but removing to New York the month preceding its first issue, we lost his valuable personal experience as author and editor. For three years his friendly counsel, and his incisive criticism aided us, and above all his skilled pen was engaged in the support of the JOURNAL.

Dr. DeRosset engaged in the practice of his specialty in New York, and with the exception of the short interval of an experimental residence in San Antonio, Texas, he made that city his home. It was here he discovered a slight intra-ocular hæmorrhage accompanied with albuminuria. On September 30, 1881, he had a cerebral hæmorrhage and resulting paralysis, and thus stricken down as the honors of his profession were flowing in upon him, he came home to die in the bosom of his family.

In point of learning Dr. DeRosset was remarkable. His memory was retentive even to the most minute particulars. He mastered the most difficult works with surprising facility, astonishing his friends frequently by his comprehensive discussion of recent books, and recent theories. His brain was ever active, mounting to the height of intellectual achievements, concentrating itself upon the labors of others until the mastery was obtained; but there was never a student who had so little reverence for authority. Familiarity with the work of others so far from making him a devotee, only served to make him more independent in thought and action. Demonstration to him was the only test of merit; for plausible theory, his quick brain was always ready to set up a counterpart.

During his residence in Baltimore he conceived the project of issuing a translation of Bouchardat's *Annuaire* (Annual Abstract of Therapeutics, Materia Medica, Pharmacy and Toxicology for 1867, by A. Bouchardat) ; as a pecuniary venture this volume was a failure coming before the medical public at a time when French therapeutics was on the wane. His writings were chiefly contributions to medical journals. His last regular paper was communicated to the *American Journal of the Medical Sciences*, October, 1878, entitled "The Muscle of Accommodation, and its Mode of Action."

The literary work performed by Dr. DeRosset was immense and the above allusion by no means indicates its scope. His scholarship was most versatile. He was equally at home with the ancient and modern classics. He really lived for the most part in those higher regions of science which detracted largely from his success in a business way. His intercourse with his fellow man was unselfish and gentle. His application to the literary and scientific part of his profession was unremitting, but the drudgery of general practice was not only distasteful to him, but its exposure told on his health, and warned him to look to a specialty for his living.

We stand by the grave of our friend with a heavy heart. We remember him so gentle, so ready in an emergency, so beautifully learned, so true to his friends, such a devoted husband and father, such an honest public spirited citizen, such a true gentleman, that the calamity of his death finds only one mitigation, and that in the bright hope of his blissful resurrection.

The following memoir and resolution were offered by

DR. GEORGE GILLET T THOMAS.

It is but a poor expression of the sadness that a death in our circle brings with it to set forth in studied phrase the well-known virtues and estimable qualities of heart and mind which have endeared to us the departed. Indeed, deep sorrow finds no utterance in words ; but the name and remembrance of MOSES JOHN DEROSSET will always be fruitful of pleasant thoughts of his life as friend, teacher, medical associate and adviser, profitable for reflection, worthy to incite us to energetic and conscientious work in the profession he sought to advance and elevate.

His naturally acute and searching mind found in persistent and

well directed application a pleasant field in its endeavors to achieve the success, his ambition and ability promised him. His career as physician and teacher is well-known to us all, and in his selected branch of surgery, his rapid advancement to a prominent place among the leading operators and thinkers of his day, attested the great worth of the man. To the details of his work, he brought the same unceasing care that marked the grasp of his broad intellect in securing the mastery or setting forth the explanation of the abstruse subjects which came under his observation. For his intellect was of the class that unwillingly accepted theories or facts upon the mere dictum of a teacher, however high the authority might be. Strong in his own opinions and well prepared to defend them against all comers, his self-sufficiency often became aggressive in its assertion of independence. Yet no man had a truer friend than he was. Honest and brave, he opposed the wrong, and as far as in him lay, preserved and upheld the right. A lover of the true, the beautiful and the good, his life was filled with good works and kindly deeds, and his death has left us these memories worthy to be cherished.

He was gathered to his fathers, in the prime of his life after days and days of patient suffering, "having the testimony of a good conscience ; the communion of the catholic Church ; in the confidence of a certain faith ; in the comfort of a reasonable religious and holy hope ; in favor with God ; and in perfect charity with the world."

Let us trust then, that when the mind of the good physician, which had pondered so often and so long over the great questions of life and death, the solution of which held out the promise of so much happiness, was awakened to the consciousness of enduring realities and the enjoyment of immortal existence, the memory of the mighty struggle here still remained to enhance, if possible, the fruition of beatitude.

Resolved, That this testimonial of our esteem for him living, and sorrow for his death, be enrolled in the minutes of this Association.

The rule which prevents consultations with homœopaths is not a matter of etiquette, but of simple morality, plain common sense and ordinary truthfulness.—*British Medical Journal*.

REVIEWS AND BOOK NOTICES.

A TEXT-BOOK OF THE PHYSIOLOGICAL CHEMISTRY OF THE ANIMAL BODY. Including an Account of the Chemical Changes Occurring in Disease. By ARTHUR GAMGEE, M. D., F. R. S. Professor in the Victoria University, Manchester; Brackenburgh Professor of Physiology in the Owens College. With illustrations. Vol. 1. London: Macmillan & Co. 1880. Pp. 487.

The author says it has been his desire to consider the sub-
of Physiological Chemistry from the point of view of the biologist
and the physician, rather than that of the chemist

This work is the only English work devoted to the study of
physiology as taught in the laboratory, and is the result of the
author's own experience as a teacher.

This volume treats first of the Proteids, their general characters
and their characteristic chemical reactions; a synopsis of the chief
proteid bodies, the products of the decomposition of proteid bodies,
and the theoretical view as to their constitution. The important
part which proteid or albuminous bodies play in the animal organ-
ism, being never absent from the active living cells, is the reason
why a general sketch of them is given as an introduction to the
work.

The blood, is the subject of the second chapter, and covers nearly
two hundred pages. Its physical characters comprising the phe-
nomena of coagulation, the liquor sanguinis, microscopic obser-
vation on the character and arrangement of fibrin in blood clot,
the mode of separating fibrin for chemical examination, the fibrin
ferment and its origin, the spectrum analysis of oxy-hæmoglobin.
The changes which blood undergoes in disease in the interesting sub-
ject of the third chapter, and the whole subject is completed by a
description of the laboratory methods of its investigation.

The lymph and the chyle are next treated, and under this head
the normal fluids such as those contained in the healthy serous sacs,
and the cerebro-spinal liquid, and the liquid in dropsies.

Chapter VI is devoted to the consideration of pus, given in this
order, because of the close connection between it and the blood and
and lymph and chyle.

The volume concludes with chapters on connective, epithelial, con-

tractile and nervous tissues, and the chemical history of certain of the peripheral terminations of the nervous system and of the accessory structures connected with them,—the tissues and media of the ear, and the tissues and media of the eye.

Professor Gamgee's work has received warm commendation from the most eminent teachers of physiology, and while his book is more valuable as a text-book for the laboratory, it gives to the general medical student new light as to the value of physiology in its application to practical medicine.

THE DISEASES OF CHILDREN; A Practical Systematic Work for Practitioners and Students. By WILLIAM HENRY DAY, M. D. Second Edition. Rewritten and Much Enlarged. Philadelphia: Presley Blakiston, No, 1012 Walnut Street. 1881. Pp. 752. Price \$5.00.

Dr. Day will be favorably remembered by our readers as the author of an admirable work on "Headaches, their Causes, Nature and Treatment." The same practical methods which he brought to that task are conspicuous in the work before us. Nothing speaks higher of the ability of a medical author, than his power to teach in such a way that the reader can apply the knowledge at the bedside. Some of the best known text-books on the same subject, notably Rilliet and Barthéz and Meigs and Pepper, will always be revered as classical productions, but neither of them will serve the practitioner in his time of need so well as this one.

The treatment of the subject of infant feeding and hygiene, which lies at the foundation of all rational management of infantile diseases, is admirably written. If the teaching here laid down could be indoctrinated among the mothers in our practice, the way to successful treatment would be made smooth.

There is one feature of this work that will make it sought after, but which by the way is the principal objection we have to it, and that is the array of ready-made prescriptions.

The most recent sources of information have been diligently drawn upon by Dr. Day; we noticed quotations down to the latest date practicable.

All attempts in a general treatise like this, to elucidate diseases of skin, have signally failed, and this work is not an exception.

The few pages devoted to this important and difficult subject, had as well been left unwritten.

We heartily commend this work to our readers.

FOURTH ANNUAL REPORT OF THE BOARD OF HEALTH OF THE STATE OF NEW JERSEY. 1880. Camden, N. J. : Sinnickson Chew. 1881. Pp. 378.

The noticeable thing about the reports of all State Boards of Health, is the individual impress given to the work by their Secretaries. Folsom, of Massachusetts ; Baker, of Michigan, Reeve, of Wisconsin ; Jones, of Louisiana ; Hunt, of New Jersey ; Snow, of Rhode Island ; Harriss, of New York ; and so on through the whole list, the work is all planned and digested, and shaped, and finally edited by the Secretary. In fact, in no other way could an efficient machinery be constructed and conducted.

It is fortunate for the State Board of Health that such a man as Dr. Hunt could be found to fill the place of Secretary.

The volume before us prepared under his editorship, betokens singular executive ability. For it must be remembered that the work of a Secretary is defined by no law, nor indicated by any precedent, further than that interpretation of the methods of gathering statistical information and pointing out the remedy of insanitary evils, which must originate in the educated brain of this functionary.

Diphtheria, Periodic Fevers, The "Elizabeth Nuisance," (the nuisance proceeding from kerosene oil works, where sulphuric acid is recovered from the refuse of kerosene) Kerosene Explosives, Local Boards of Health, Drainage, Our Seaside Resorts, Meteorology, Diseases of Animals, Milk Supply, are some of the general heads of subjects treated.

A very instructive paper on Enteric Fever at Princeton, by Dr. Ezra M. Hunt, the Secretary, will long be a standard of reference of like investigations, as well as a sad record of carelessness and disregard of sanitary rules. The disaster of typhoid fever at Princeton should be a warning to other colleges.

The details of sanitary inspection of cities and almshouses by county boards is especially instructive to Superintendents of Health of counties in this State.

The Report of the Bureau of Vital Statistics which concludes the volume is the best work of all, evincing all those higher and rarer qualities of the professional sanitarian.

We return our thanks for our share of the instruction this volume affords, and congratulate the New Jersey Board of Health on the high standard it is attaining to.

REPORT ON TRICHINÆ AND TRICHINOSIS. Prepared under the Direction of the Supervising Surgeon-General of the Marine Hospital Service, by W. C. W. GLAZIER, M. D., Assistant Surgeon M. H. S. Published by order of Congress. Washington : Government Printing Office. 1881. Pp. 212.

The damaging reports published by foreign governments of the existence of trichinæ in American pork exported, led the government to make this report. It was completed by Assistant Surgeon Glazier, just before his death.

The history of the discovery of *Trichinæ spiralis*; its natural history; theories of its origin, history of trichinosis statistics of epidemics, etiology, pathological anatomy, symptoms, diagnosis, prognosis, pathology and treatment; symptoms of trichinosis in animals; prophylaxis, with laws governing the pork trade in Europe, with some of the results of the examination of European and American pork; recommendations as to precautionary measures to be observed in making examinations; trichinosis in the United States. These are the several headings discussed, fully covering all that is known on the subject up to this time. The work is illustrated with 171 wood-cut illustrations.

The "reports from pathologists and others" seems to have been made very hastily, and does not throw much light on the subject.

This is a very useful volume for reference.

PHOTOGRAPHIC ILLUSTRATIONS OF CUTANEOUS SYPHILIS. By GEORGE HENRY FOX, A. M., M. D. Forty-Eight Plates from Life. Colored by Hand. E. B. Treat, No. 757 Broadway. Price \$2.00.

Parts 7, 8 and 9 of this work are before us. These numbers fully sustain the good opinion we formed of the work in our issue of January, 1881. We are satisfied that there is no work equal to the present in teaching qualities. The pictures are from actual

cases, and do not exaggerate the features of the diseases for pictorial effect. This work should be thoroughly sustained by the profession.

The numbers especially under consideration give six plates of tuberculous syphilis, one of scrofuloderma, one of pustulous syphiloderma, and one of the gumimous variety.

OBITUARY.

ISAAC RAY, M. D.

We notice with regret the announcement of the death of this eminent physician and psychologist. He was born in Massachusetts, graduated at Harvard, and was superintendent of several insane asylums. He was seventy-four years of age, and his death seemed to be hastened by the loss of his only son, a promising young physician.

WILLIAM BARROW, M. D.

Dr. William Barrow was born in Scotland Neck, Halifax County, N. C., January 5th, 1821. Was at the University of North Carolina in 1858. Studied medicine under the celebrated Dr. C. Cross, of Northampton. Graduated at the University of Pennsylvania in March, 1841. Commenced the practice of medicine in the same month of the same year at Jackson, N. C., being at the time only a little over twenty years of age, and continued in active practice for over forty years, and until his death which occurred on April 20th, 1881.

Without even seeking an office, the office always seeking him, he was Chairman of the Court of Pleas and Quarter Sessions of Northampton County for over twenty-five years. Was a member of the Constitutional Convention of 1865 and 1875. Was a Senator from Northampton in the Legislature of 1868-69, and was a member of the Board of County Commissioners from September, 1874, to December, 1878.

Dr. Barrow was an honor to the profession, regarding it as a medium through which to make his life a blessing to the world. He was a high minded, high toned Christian gentleman, always just and liberal to his professional brethren, holding their reputations as sacred as his own, by strictly observing the highest code of medical ethics in all his association with them. He was never heard to say aught the least detrimental to a professional brother. All his neighboring practitioners held him in the highest esteem and had in him the utmost confidence. Truth, Honesty, and Candor, the three noblest of virtues, emphatically marked his character, and distinguished him among men. His loss is greatly felt.

V. S. M.

NORTH CAROLINA MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., EDITOR.

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HOANG-NAN.

(STRYCHNOS GAUTHERIANA.)

SYNONYM—TROPICAL BINDWEED ; FAMILY—LOGANIACEÆ.

The exact physiological properties of Hoang-Nan have not yet been definitely determined, but experiments show it to be a decided spicant which powers in combines with peculiar alterative powers, and a property, so far peculiar to itself, which give it a specific action against the poison of venomous serpents, and even rabies.

Hoang-Nan has been given with benefit in PARALYSIS.

The reports of its effects in LEPROSY certainly encourages the hope that it will prove valuable in this disease. It has also been employed with benefit in INDOLENT ULCERS, and SCROFULOUS SORES, changing the diseased action and promoting cicatrization.

As an ANTIDOTE TO THE POISON OF SERPENTS its efficiency has apparently been established beyond a doubt, and the instances reported of its employment in HYDROPHOBIA point to it as a possible remedy in that hitherto incurable affection.

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(DUBOISIA MYOPOROIDES.)

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In many cases of pulmonary disease of a self-limited nature, such as pneumonia, capillary bronchitis, etc., the want of some agent which would aid in the prolongation of life, by keeping up the oxygenation of the blood, for a short time until the disease has spent itself has been keenly felt.

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NORTH CAROLINA MEDICAL JOURNAL.

THOMAS F. WOOD, M. D., Editor.

Number 6. Wilmington, June, 1881. Vol. 7.

ORIGINAL COMMUNICATIONS.

REPORT OF THE TRIAL OF JAMES THOMAS DEJARNETTE, FOR HOMICIDE, AT DANVILLE, VA.

By EUGENE GRISSOM, M. D., LL. D., Raleigh, N. C.

On the 8th of July, 1880, about 11:30 P. M., James Thomas Dejarnette killed his sister, Miss Mollie Dejarnette, by firing five shots into her body, from a pistol, in a house of ill-fame, known as "Blonde Hall" in the town of Danville, Va. Miss Dejarnette lived several days before death ensued.

Thomas Dejarnette surrendered to the officers of the law in the room where the homicide occurred, and was tried in the Hustings Court of Danville, September 6th, following. The defence was insanity of the prisoner, and the verdict of the jury pronounced the prisoner guilty of murder. Exceptions to the rulings of the judge were successfully taken, and the case was remanded for new trial, by the Virginia Court of Appeals.

The case was called for trial April 13, 1881, before the Hon. A. M. Aiken, Judge of the Hustings Court of Danville. A jury was

obtained the next day, and the case opened against the prisoner by Mr. John D. Blackwell, the Commonwealth's attorney. The leading facts of the homicide were fully proved and admitted.

The prisoner, while at Brown Summit, on duty as agent of that station of the Richmond and Danville R. R., had received a letter from his greatly beloved sister, informing him that she was in Blonde Hall, and urging him to come and take her away, she had been there about ten days. In twenty minutes he was on his way by rail to the spot, 36 miles distant; on reaching Danville, he repaired to the house, entered her room, and instantly fired upon her, five successive shots. She had greeted him, and gone into the room with him.

The testimony for the prosecution contains the following, which is briefly condensed :

W. A. Watson : " Was a member of the police at the time of the shooting. Mr. Cox and I were on duty that night." (The witness described hearing five shots, locating the sound at Blonde Hall, and entering.) "Went to the door, on landing above, found it locked inside, and ordered the parties to open it. Some one replied that it would only be opened to an officer." (On being assured that they were officers, Dejarnette said that the key was lost and they would have to break the door open.)

" I failed to state that when we first demanded admittance Dejarnette said he had three balls left for any one who would come in. When I opened the door he was standing in front, five or six feet of it, a pistol in his right hand, which hung by his side."

"I asked him what he had done, said he had shot his sister and his neck was then ready for the State of North Carolina. I told him then that we would have to take him and lock him up. He begged to let him remain until the doctor came, for whom we had already sent a messenger. We let him remain until Dr. Hoyt came.

"He asked Dr. Hoyt to do all he could for her, and, I think, said he would see him paid. After we had started his sister asked him to kiss her. He leaned over on the bed, and, I think, she put her arms around his neck, and one of them remarked that it was "the kiss of death." We then left with him, not before he remarked to her that he was sorry to see her suffer so much, that he wanted to kill her outright.

"The prisoner said something to Lelia Lester about her being the landlady of the house, asking her if she induced his sister to go there, but I don't recollect her reply." ("Another witness testified that Mollie said : 'No, brother, she never persuaded me.'") "He said he killed his sister to retrieve the honor of his father and himself. Said he had done a great deal for his sister, that he had educated her, sold his watch to get money for her, that he had received a letter from her that day stating where she was, and begging him to come after her, that he telegraphed to Richmond for permission to leave his office, and was refused, but that he determined to come anyhow ; left Brown Summit with the intention of killing his sister, and that he was then ready to suffer any penalty that the laws of Virginia might visit upon him. All the chambers of the pistol were empty when I took it from him. His bearing was cool and deliberate, very deliberate, and he seemed to be self-possessed, intelligent and knew what he was talking about. I was at the train which brought him to Danville, and it was about thirty minutes after its arrival, before I heard the shots."

Drs. Franklin George and J. P. Hoyt, attending physicians described the wounds, two in the back below the ribs, one between the breasts, one on the collar bone, and the fifth through the left hand, also stated the treatment and subsequent death. In Dr. Hoyt's testimony appears the following :

"I found Mollie Dejarnette, two officers and her brother in the room." Before making an examination I asked : "What does all this mean ? and her brother replied that he had done the deed, and had simply done what he thought was his duty. She said : 'Yes, he shot me, and I want him forgiven for what he has done.''" "The officers started to take him to jail, when Mollie embraced him asked him to give her 'a farewell kiss,' he said : 'Yes, a kiss of death.' On the night of the shooting, the prisoner was perfectly self-possessed, calm and quiet, exhibiting no nervous excitement, anger, or any other peculiar characteristic. He never said in my presence why he thought it his duty to kill his sister ; at the time he made the remark, 'the kiss of death,' he seemed intelligent calm and rational."

Dr. Hoyt stated that he had a further interview with Dejarnette, in which the prisoner, while in jail told him that he had locked

the door of his sister's room, because he did not want to be attacked by such characters as visit those houses, and that if he had to suffer, he wished it to be by the law and not the hands of a mob.

R. M. Lowrie, policeman at Blonde Hall from the night of the 8th, after the homicide, until the day of Miss Dejarnette's death on the 16th of July. After repeating the circumstances of the night before, the witness said he had taken Dejarnette from jail the next day to see his sister.

"When we reached the room, he walked around the bed, took a seat near the bedside. She seemed to be asleep. Prisoner took up a newspaper as if to read. In a few moments she opened her eyes and said: 'Good morning, brother, how are you this morning?' He replied, 'Very well.' She then again closed her eyes for a few moments. She asked him if he had received her letter. He replied, yes, he got it about twenty minutes before he left Brown Summit. She asked: 'Why did you not give me time to explain myself after the first shot?' She said: 'You do not know how much I have suffered.' He said: 'I came down to keep you from suffering; you have a young sister that is as pure as spring water, and I came down to make an example of you.' Rev. Mr. Peterson then interrupted and the conversation stopped."

The witness stated in the course of his testimony, that upon questioning Dejarnette as to whether he was drunk the night before, he replied, "that he was not, that he was as cool as that time, that he was not in the habit of getting drunk; that he sometimes took two or three drinks a day."

Subsequently he was taken to see his sister again, and he asked her to tell him who her seducer was.

She asked him when we got there if she should state it in public—she would tell it any way he wanted. He requested that only Capt. Hatcher and myself remain in the room. She then told him that Edwin Luther Dechert was the man, Harrisonburg the place, and the time 1878, and the promise, marriage. No manifestation of any remorse was ever visible. I certainly thought he was sane enough to know right from wrong."

Lelia Lester, the keeper of the house of ill-fame, testified to substantially the same account of the shooting as we have given in other testimony. She said she picked up the key, lying immediately by

the door within. She also said : " When the police started to take him out, he stooped over her and said something, I don't remember what, and she begged him to let her put her arms around him and hug him, and said she loved every drop of blood in his body."

P. G. Burton, Esq., editor of the *Danville News*, testified to his presence at the interview on the 9th, between the prisoner and his sister. The following points, not elsewhere referred to, are found in his testimony :

" After awhile the minister sent for arrived, and when he began to point out the consolations of religion, Dejarnette for the first time showed emotion and broke down in tears. After awhile the minister, Rev. Mr. Peterson, offered up a prayer. Dejarnette leaned forward with his head in his hands, and his hands on his knees."

Mr. Burton also said that Dejarnette made a statement of the affair to him. After repeating the events as narrated, he said that : " accompanied by a negro guide, he found ' Blonde Hall,' knocked at the door, asked for Mollie who came out and met him, went to her room, entered, shut the door, locked it, threw away the key, drew his pistol, ' and I don't know what happened afterwards' were his exact words."

Jennie Smith, who nursed the wounded girl, Capt. Hatcher who corroborated the evidence of policeman R. M. Lowrie, and Mr. Cox, who identified the weapon used, were the remaining witnesses for the prosecution. The testimony was voluminous, but the essential facts are contained in the above statement.

What could be the key to the extraordinary and almost unparalleled act in a brother who thus shot a living and most dearly beloved sister ? Not unnaturally, the utmost horror was expressed, the press called for speedy vindication of violated law, crowds thronged about the place of trial, and the popular voice seemed to anticipate the verdict of guilty. Few there were, perhaps, who fully knew the history of the prisoner at the bar, or asked themselves if the recognized natural history of sane human conduct was compatible with such a deed, in view of his past life from childhood.

James Thomas Dejarnette, was born August 1st, 1860, and is, therefore, in his 21st year. In a very high degree, for several generations back, he inherited the insane susceptibility, on both the paternal and maternal sides of his ancestry. At the death of his

father in 1873, the family fell from its respected position, (the father having been a physician,) into absolute want. This unhappy prisoner, then a boy of thirteen, devoted himself to the task of providing for his insane mother, and homeless sisters. He gave his scanty earnings for their support cheerfully. The poor girl who now fills a bloody grave was the object of the most devoted brotherly love. He sent her to school, he obtained homes among people of character and position, where her services were received in compensation for the comforts of life ; he sold a watch which was the gift of a friend, to comply with her desire to furnish her means to leave Harrisonburg, whither she had originally gone without the knowledge of her friends.

Meantime those most closely associated with him in his home at Brown Summit recognize a change in his original character ; he becomes moody, grows sleepless, is rambling, flighty and fitful in conversation, neglects his business, attempts impossible inventions, imagines himself the victim of various diseases, writes incoherent romances, changes in expression and manner, and draws upon himself the attention of persons who predict his speedy fall into insanity, without knowing anything of his family history, and from six to twelve months before the eventful day of the homicide. Among his striking delusions are a proposal to invent a machine to load and unload railway cars at full speed, and a scheme to secure perpetual motion, and to build an engine in thirty days, with some tin wheels and such material.

His sister has disappeared. Absent for some time ; when he believes her to be in Charlotte, N. C., or at home, he suddenly received a letter written from the dismal depths of infamy, in a house of ill-fame, in Danville. In a few minutes he is on his way, and the loving brother who had toiled for years in the hope to render his sister a pearl and ornament of society has sent five successive messengers of death into the bosom that his boyish head had nestled against in confidence and affection so long.

Was this the behavior of a sane man, or had his long suspended ancestral doom fallen upon his head ?

Let us recite the testimony for the defence, and decide this question by the clear cold light of truth.

The testimony for the defence occupied several days, the material facts being as follows :

W. L. Tally : "Have known Mrs. Dejarnette, mother of the prisoner, for fifteen years. She lived on one side of the road, and I on the other, for five years. Saw her frequently ; have believed she was insane for the last five or six years. Have seen her come out in her yard, roll up her sleeves, pop her fist and rear and pitch around, with no one present for her to quarrel with. These spells were frequent and violent. Her language was profane, bitter and vulgar. She would as soon sell a piece of property worth \$100 for \$5, as not ; in fact, that was the way she got rid of her money. She now wanders to and fro all over the country. I know the prisoner sent her and her daughters, frequently, provisions, for her support, and sometimes money. Mollie and Thomas were quite small when their father died. I was with him when he died, about seven or eight years ago."

On the cross-examination, witness said : "Mrs. Dejarnette raves and rants now. Have seen drunken men do the same thing. Don't suppose she could get whiskey every time she carried on. She used to do this in Dr. Dejarnette's life-time. I have no doubt at all of her being insane."

J. R. Ferrell, examined : "I have known Mrs. Martha Dejarnette all my life. Have seen her frequently. I have thought at times she was partially deranged, because of her talk and actions, loud and boisterous, slapping of hands, and scattering ideas on almost any subject. She has no capacity in business. Her fits of violence have increased since I knew her. She would give things away or sell them for little or nothing. I heard that the prisoner assisted his mother and her family once a week after he went to Brown Summit."

Cross-examined, the witness said : "In the paroxysms of rage she did not appear to be rational. She has not been regarded, that I know of, as a woman of bad character and intemperate habits. Have had no experience at all with insane people."

S. S. Harrison, examined : "I live in Caswell county, N. C. Have known the defendant and family some time. C. K. Harrison, her great grand-father, I kept at my house several years while he was deranged. He was dangerously violent—had to be confined and guarded. I kept him until his son finished school and took him to his home. One of his half-sisters was deranged, mildly and peaceably so.

"The children of C. K. Harrison were two, Thos. D., and Mary. Mary was the grandmother of the defendant. I knew her mental condition to be unsound, and she was thought to be deranged by her relations. Mary Harrison married Aaron Blackard. She had one child, Martha, the mother of the defendant.

"C. K. Harrison's wife's brother was subject to epileptic convulsions. Sister also."

K. M. Price examined : "Knew Charles K. Harrison. He was deranged, very violently. Knew his children, Thos. D. and Mary. She was said to be deranged. Has been dead 30 years. Went to school with Thos. D. Harrison. There was something peculiar about him. I have seen him laugh immoderately at things that no one else enjoyed. Died during the war."

In relation to the paternal ancestry of Dejarnette, the testimony was subsequently given of

James P. Dejarnette : "Am first cousin to the prisoner. His father had only one brother, my father. He is called insane by physicians. Is incapable of attending to business. I have applied for a guardian at law for him.

"Prisoner and his sister Mollie were kind and affectionate up to the day of the shooting. He educated her, boarded her in Reidsville, N. C. Of the two sisters, Mollie, the deceased, was his favorite.

"Father's condition mentally, has been bad for some time, but worse for the last four or five months. He takes up notions that his neighbors or some of his family are about to kill him. He was taken with this last attack in Charlotte county. He was carried home by force when he was brought back."

Cross-examined : "I did not know that Mollie left her mother's house in April, 1880, to come to Danville to live."

This closed the testimony in relation to the hereditary predisposition to insanity. Dejarnette's farther history will be traced in the following testimony :

F. S. Woodson : "I am a telegraph operator. Defendant was under my management when he entered the business. He was about 14. Received \$5 a month as messenger boy. It took all his money at first to pay his board. He boarded with an old colored woman by which he reduced his board to \$2.50, the other he gave to his

mother. Afterwards he arranged to keep the books of the old woman and then he saved all his wages and gave it to his mother, and relied upon his errand money for pocket change. He slept in Price's factory. He declared his purpose to be, to better the condition of his mother and sisters. Remained until March, 1876, two years. Went to work with me then in a tobacco factory. Went back to the telegraph office, and then to Pelham, as an assistant. I gave him more wages, and he seemed grateful and said it would help him to take care of his mother and sisters.

F. G. Chilcott : "I am a teacher. Lived last year near Brown Summit. Known the prisoner since May, 1877, acquaintance intimate, instructed him in duties as agent. Met the deceased at Brown Summit. She came on a visit to her brother and he boarded her with private families. Prisoner's mental condition was good, when he came to Brown Summit. He changed, however. The first thing I noticed was in the fall or winter of 1879-80, when he told me he was writing a book. Called it 'a romance,' asked me to correct it for the press, gave me manuscripts which I examined and returned. He wrote to Harper Bros. about publishing, and they declined. No sense or meaning in it. No subject. No connection.

"Afterwards showed me model of an invention of a wardrobe, which was a piece of flannel and some timber nailed together, and without utility. Confident of success and that his patent would pay handsomely. At another time, had some blocks of wood in his office, with which he said he was going to invent perpetual motion. Did not explain, but seemed interested and confident. He had a greater disposition to be alone. At times more talkative, at others scarcely saying anything at all, to his most intimate friends. Change so marked it attracted my attention. Greatly melancholy. Know of no cause for it. Attempted some invention about the telegraph. I could see no sense in his incoherent explanation of it, with a piece of woods with a hole in it. I heard of other inventions but did not see them. I heard it spoken of that he intended to load and unload passenger trains while going at full speed. Frequently staid all night with him. He was sleepless, depressed and melancholy, and his conversation flighty at times. He wrote to Dr. Craven, asking what books and education were necessary to become a lawyer. Asked me to teach him Latin. I bought a grammar for

him, but could never get him to recite a lesson. From these facts I thought his mind unsound. I and others spoke of these peculiarities at the time. Never expressed opinion until the shooting in Danville. The general impression around Brown Summit was that there was something wrong with the man. This was six or eight months before the shooting. Dejarnette drank some. I saw him drunk about three times—at a tournament, when an excursion came in and one other time. I do not think his eccentricities were traceable to drink. I staid with him the last night he slept at Brown Summit. He was sleepless and restless.”

The witness remarked that Dejarnette slept less than any man he ever saw. Frequently hardly four hours out of twenty-four.

Cross-examined by prosecution : “I generally went to bed first and rose first. He never assigned any cause for depression. Have heard he was in love with a girl at Brown Summit. Attended to his business as usual. I don’t know anything about electricity. Never made a wardrobe, and knew nothing of machinery. Had no experience with insane people.”

Commonwealth’s attorney asked witness if he had ever read the Book of Revelation. Witness said he had. “Do you comprehend and understand all that is written therein?” “No sir.” “Then do you reason on that account that the author of that book was insane?” Witness said he had not thought of the matter in that light.

F. G. Chilcott, re-called on succeeding day : “Prisoner told me while at Brown Summit, he had given three or four hundred dollars to support his mother and sisters. His salary was not uniform, sometimes \$30, sometimes \$40. The prisoner smoked right smart. Don’t know that it was excessive.”

P. G. Chilcott examined : “I am brother of last witness. Live near Brown Summit. Known prisoner intimately since 1877. When I first knew him, was very intelligent and a great talker. About March, 1880, I noticed a change in him. Was melancholy. Didn’t want company. His conversation became scattering. I heard these peculiarities spoken of by others before I noticed them. In March, 1880, he showed me some tin wheels and other little machinery, and said he was going to make a steam engine. Was to finish it in thirty days. A few days after, in reply to my inquiry,

said he had not had time to finish it. This was the last I heard of it. Afterwards showed me timber, and said he had fallen on a plan to create perpetual motion. Never explained, but was certain he could accomplish it. Don't think I ever heard him talking about a wardrobe."

On cross-examination the witness said that there was a difference between the prisoner's present expression, and when he last saw him at Brown Summit, when he "had a wild look."

Dr. R. K. Denny examined : "Live near Brown Summit. Practice physic. Been a doctor for 31 years. Known the defendant ever since he came to Brown Summit. Was his physician. Saw nothing to attract attention for eighteen months. Twelve months before he killed his sister, he asked me to examine his lungs. Said some doctor had told him he had tubercles. Saw him half a dozen times afterward but he said nothing more about that. Requested me three different times to examine him. I didn't notice much the matter then. Asked me to examine his breast. Thought he had heart disease. Several months after, wanted me to examine for disease of the liver. Found him bilious and prescribed. Noticed after this that he neglected his business. Was uncommunicative. He thought his diseases would kill him. He suffered from spermatorrhœa, and I prescribed. The last eight months he seemed depressed. Sought to be alone. In conversation he would commence on one subject and jump to another. His spells of dejection increased in frequency. His conduct was so different, it attracted my particular attention. *Twelve months before the tragedy, I spoke of it to my family ; remarked that sooner or later he would become deranged.* At this time, I knew nothing whatever of the history of his family. My opinion was based solely on his conduct. Saw no improvement in his actions. Think his mental condition was unsound. Was first approached by Col. Withers of the prisoner's counsel, at Brown Summit. Did not know him at the time. Prisoner spoke to me about the engine he intended to invent. Did not explain it."

Cross-examined by prosecution : Did not examine prisoner's lungs or heart. Satisfied his complaints were imaginary. He described the symptoms of spermatorrhœa and I gave him treatment. He was discharged for disobedience, going to Greensborough without

permission and neglect of business. Was paying court to a lady near Brown Summit in October, 1879, and for several months before the tragedy. Have not had much practice with lunatics."

The other witnesses for the defence were Mr. Steel, a hotel keeper of Greensborough with whom Dejarnette boarded during his trip to that town in May, 1880, who stated from various reasons his impression that the prisoner's mind was not balanced at that time. He had heard the inventions spoken of, and Miss Annie Dejarnette, the surviving sister of the prisoner, who testified as follows :

"My brother has always been kind to my sister. Did everything he could for her. Sold his watch and sent her to school at Reidsville. Got her several good homes, one at Mrs. Joe Lawson's, and another at Col. Thos. Holt's in Alamance, N. C. He has supported mother ever since he came to Danville; mother and sister too. He always did this up to last July. Received a telegram in Rockingham county, N. C., of my sister's condition on the 9th of July. Came to Danville and visited her.

Cross-examined by prosecution : Sister would be nineteen on the 15th of May, if living. She lived part of the time in the two years previous to her death with Mrs. Saunders, in the Pace building; also in Charlotte, with Miss Lawson, afterwards with mother. I saw her at mother's in April, 1880. She lived in Danville from April to July. Do not know where she was living or what she was doing. Do not know that my mother or brother did. My brother during this time, never wrote to me or mother, giving us any intelligence of my sister. Had not corresponded with her for six months. Have no reason to believe that my mother knew of my sister's intentions when she left home. None of us knew that Mollie had left Danville with Mr. Dechert's family until she had been gone about a week. Went about Christmas and came back in the spring. Do not know that brother said he would kill sister if she fell into evil habits. Never heard of the warning until I saw it in the papers, nor until I came to Danville this time. Sister Mollie was very fond of brother. I know brother did not correspond with sister from April up to the time of the tragedy. Brother sent money to Harrisonburg to bring sister home. I don't know that mother informed brother of her leaving home in April."

The defence, after the statements of the witnesses to the facts of

the homicide, introduced expert testimony as follows, from two physicians, who had been present throughout the trial, and heard all the evidence :

Dr. R. K. Gregory, examined : " Was a graduate of the University of New York. Have been practicing medicine twenty odd years. Commenced practicing in Cuba, returned to United States, was in the U. S. military service before the war. During the war, was a surgeon in the Confederate army, in charge of hospitals at Charlotte, N. C. Native of Virginia, near Drury's Bluff. Made the human mind a study for fifteen years, first induced to do so, by being called to investigate the case of Ray, who killed his wife in Mecklenburg county, N. C., about that time."

Q. " If the statements of the several witnesses as to the existence of insanity in the ancestors of the prisoner, and his own condition, acts and declarations preceding, at the time of, and since the killing of the deceased, are proved, and if the jury are satisfied of the truth of them, can you as a physician, form an opinion as to the mental condition of the prisoner at the killing of the deceased ? "

A. " I can."

Q. " What is your opinion ? "

A. " I believe he was insane."

Q. " What was the nature and character of that insanity ; and what state of the mind did it indicate ? "

A. " It was delusional insanity—he was under an insane delusion. All the faculties of his mind were impaired."

Q. " Assuming the evidence to be true, please indicate specifically the symptoms and facts therein, upon which you base your opinion ? "

A. " There were two causes, predisposing and exciting. First, heredity, or hereditary taint, existing in his system as shown by the witnesses who testified as to the condition of his ancestors ; next, his ill-health or impaired health, great loss of sleep, extreme wakefulness, his inventions, nonsensical books of romances, invention of perpetual motion (I mean attempts, any attempt at the invention of perpetual motion would be strong ground alone for suspicion of insanity), his device for a wardrobe, telegraphic instrument he thought he had invented, his device for loading and unloading

passenger trains while going at full speed, imagining himself suffering from various diseases, and in reality suffering from some, his melancholy, disposition to be alone, frequently very talkative and then very reticent, the change in his habits and temperament from what they were before. There may be others with which I have not charged my memory particularly.

"And then in that condition of mind, and body, he suddenly receives the intelligence of the downfall of a loved and favorite sister—that she was in a brothel—and this shock, or exciting cause developed insane delusion, and under its impulse he committed the act. These are not all of my reasons for forming this opinion. The nature and character of the act itself is indicative of insanity. His cool, calm, and indifferent manner to his sister and those around him, making no effort to escape, but justifying himself by stating that he believed he had done his duty, and that he did it to retrieve the honor of himself and his family, for the good of his sister whom he killed, and for the good of his younger sister, that it might be a warning to her, and his readiness to surrender himself into the hands of the law. It is the aggregation of circumstances, not the details, that make up the opinion."

Dr. Gregory then explained spermatorrhœa. He also stated that he had lived in Guilford county for six years. Knew Dr. Denny's character to be good, reputation good. Dr. Denny was County Commissioner of Guilford county. Mr. Chilcott's character was good. Was not attending the trial as a paid expert. Came at the solicitation of the friends of the defendant in North Carolina.

Dr. Gregory was cross-examined at length by the prosecution. In reply to questions he stated that a delusion is a false idea, the result of a disease of the brain, in which the mental faculties are perverted or impaired. A man might under this delusion conceive the idea that he was compelled to kill his child, father, sister or any relation, and under that impulse, not having sufficient control of his will, execute it, or do the killing.

He was closely pressed with questions as to the power of deliberation remaining to the insane mind, in connection with the recital of the case according to the theory of the prosecution, that it was deliberate murder. His reply was :

"I admit that a man could do all that, and yet be compelled by

a delusional impulse to commit the act which he started out to accomplish. He could deliberate only on one point."

Q. "What is the difference and how is it detected, between delusional insanity and moral turpitude?"

A. "Delusional insanity is the result of a disease of the physical system, and the other the result of ignorance or education."

The witness did not believe in moral insanity at all. Had treated about a dozen cases of insanity. Did not believe in emotional insanity—had never seen a case of it. Questioned as to his views of the case from the atrocity of the act, the witness said that he took in connection with such an act, the kind relations between the man and his sister, and his conduct afterwards.

Q. By the Court. "Does your science, sir, hold that *barbarity* is an excuse for crime?"

A. "It does not. But crimes committed by the insane are generally very barbarous in character."

After farther questions, in relation to the bearings of mechanical talent or poetic genius upon insanity, the witness was asked the following :

Q. "If I understand you correctly, you lay it down as an unquestionable principle of science that whenever the ancestry have been proved to be insane, all of their offspring necessarily inherit the insanity of their parents, or a predisposition to insanity, or in other words, an insane temperament, and that if any of said offspring should commit a crime of a grave or atrocious character, the crime would be the proof, and perhaps the strongest evidence of the insanity of the person who committed it?"

A. "You were never more mistaken in your life. I say this: that the offspring of insane parents unquestionably inherit the insane temperament, and this inheritance may remain in an undeveloped and latent state without sufficient causes to develop it, that in this condition the person may commit acts of crime, and be as fully possessed of his reasoning faculties and know the responsibility as well as, I believe, I know it myself; but should exciting causes be applied to develop it into activity or create a paroxysm, under this influence the crime being committed, he might not, although knowing what his intention was to do, in regard to the crime, have the will—power to restrain himself from the act."

In reply to questions upon the power of self-control, the witness said :

“ The insane may have those impulses and warn their friends that such feelings exist ; they are conscious of their existence, and although so conscious, if not restrained they will execute them.”

The examination continued at length, the testimony repeating in substance the points referred to above.

On Saturday, 16th, the last witness was called, Dr. Eugene Grissom, Superintendent North Carolina Insane Asylum. After a brief examination by the counsel for the defence, Col. A. J. Boyd, the Commonwealth's attorney pressed a cross-examination during the entire day, and from its great length, only a portion of the subject matter can be here reported.

Dr. Eugene Grissom, examined : “ I am a doctor. Am Superintendent of the Insane Asylum of North Carolina. Have held this position for thirteen years. Practiced medicine in Granville county, N. C., from the time of my graduation in medicine in 1858, except at following intervals : I went into the war in the Confederate service as a soldier, was wounded in the seven days battle around Richmond, and while in hospital, was elected to the Legislature from my native county of Granville. Again out of medical practice during the session of the State Constitutional Convention of 1865, of which I was a member. Have made the study of the mind a special pursuit for about fifteen years. Have had under my charge for thirteen years, an annual average of about 250 patients. Have been present during the trial, and heard all the evidence as detailed by the witnesses. Could form an opinion as to the mental condition of the prisoner at the time he killed his sister. Thought he was insane.

“ No very satisfactory definition has ever been given of insanity. I mean such as closely and definitely includes all insane, and excludes all sane, on account, I may say, of the varied phenomena and symptoms.

“ I would define insanity to be that condition of the mind, in which its functions of thought, feeling, and will, are impaired by a diseased brain. I think the prisoner labored under delusional insanity. I define a delusion to be an insane false idea, resulting from a diseased condition of the brain. I have had under my treatment

at the insane asylum, a number of cases illustrating this mental condition. One that occurs to me is that of a preacher of considerable intelligence, who had a delusion that he was the President of the World, as he expressed it. Another was the case of a young lady who thought that she was the wife of the Prince of Wales.

"Another that I remember is now under treatment, a lady of character, belonging to a family whose name is well-known (doubtless to His Honor, if I were to call it); who was under treatment for a number of years, by Dr. Stribling, of Staunton, Va., afterwards by Dr. Fisher, at the Insane Asylum of North Carolina, and for thirteen years under my own treatment, who, during her paroxysms believes she has committed the unpardonable sin, and is in constant dread of being publicly executed, and her two sons executed by her side.

"These paroxysms are succeeded by long intervals, during which she laughs, writes, reads, converses intelligently, and is perfectly quiet; frequently visiting her friends in Raleigh, and at her home; and returns to go through the same round of disease. On one occasion, (I mention in proof of her delusional state of mind), she sent me a message by my associate physician, Dr. Fuller, that she had a desire to kill my little boy, and begged me to keep him away from her in her walks in the grounds. There are various other cases that I can mention if desired.

I have now under my care, a young man who was under the treatment of my predecessor, and who was then supposed to be well enough to go home on a visit, at least, and who very soon after his return home, killed his father. He was under the delusion, I suppose, from his subsequent explanation, that it was his duty to do so, because he thought his father was a devil.

"The account of it as given in court in my presence was, that he concealed an axe, and some time during the night, crushed the skull of his father, cut off his head, cut off both legs, dragged the body out, placed it under a shelter, and gave the alarm himself. I visited the scene myself the next day, and saw the mangled remains of the father just as I have described it. He is now in the asylum, and speaks of the affair occasionally without any apparent concern."

In reply to farther questions the witness said :

"The reasons for opinion of the prisoner's insanity with delusions

are : the existence of hereditary predisposition to insanity, strong on the maternal, probably on the paternal side ; change in personal characteristics and temperature exhibited by alternate depression and cheerfulness previous to the commission of the homicide, and by his talkativeness and reticence, and by other evidences of fickleness, altogether different from his previous character; his imaginations concerning his health, the neglect of business without apparent cause, attempting trivial, senseless and impracticable inventions, expecting large profits therefrom; nonsensical writings and proposition to publish them ; extreme sleeplessness, denoting nervous excitement, entanglement of business affairs, incoherency of talk, and other inconsistencies.

“ His conduct at the time and after the homicide, exhibiting no motion either of anger or remorse,—making no attempt at concealment or escape, although there was an opportunity to do so, but justifying himself, entertaining the false idea that such an act would wipe out a family stain, and retrieve the honor of his father and himself, are also reasons for my opinion.

“ I attach paramount importance to the hereditary taint in this case. By hereditary insanity is meant the supervention of that disease in cases where the susceptibility to the disease is transmitted from one generation or otherwise, to successive ones. The medical profession generally attaches very great importance to this branch of the disease. This is the result of my own observation in the treatment of the insane, as well as the conviction of my research in reading.

“ With the evidence of heredity in the family of the prisoner, I think with any sufficient exciting causes the chances for his insanity were very probable. Any cause or combination of causes that would greatly depress or shock the system, especially the nervous system, would have produced insanity in his case. If he committed the act under the delusion that it was his duty to do so, he would most likely have been indifferent and cool afterwards.”

The following questions were then asked :

Q. “ In investigating a case of insanity, what importance, if any, would you give to the following symptoms? to-wit :”

(a) “ Loss of health, or ill-health, or complaints thereof ?

(b). “ Melancholy and extremes in temperament ?

(c) "Neglect of business without apparent cause ?

(d) "Attempting useless and senseless inventions, and expecting to realize large returns therefor ?

(e) "Writing nonsensical books or romances ?

(f) "Wakefulness and loss of sleep ?

(g) "Change of conduct and strangeness of deportment to such an extent, as to call forth from his physician and associates the remark that he was crazy ?

(h) "Extreme talkativeness or extreme taciturnity in lieu of former constant pleasant and genial deportment ?

(i) "Possessing a hereditary taint of insanity from both paternal and maternal great grand parents, and continuing to his own parents ?

(j) "Extreme indifference and iciness after the homicide ?"

A. "All importance."

Q. "Suppose you find a person exhibiting all these symptoms, would it be remarkable or unusual, if such a person should be seized with a paroxysm of insanity or insane delusion upon the operating of any of the usual exciting causes of insanity ?"

A. "No. He would be liable to develop disease."

Being asked what was an exciting cause of insanity, the witness stated that it was "any cause giving rise to a sudden shock of the physical or mental system."

Q. "Finding a person with such symptoms, would the sudden news of the downfall of a favorite sister, have the tendency to bring on the paroxysm ?"

A. "It would, *unquestionably*."

The witness farther testified as follows :

"Before the last trial in this case, I was written to several times by Col. Withers (counsel for defence) soliciting my presence, but declined on the ground that I had not been in the habit of attending trials as an expert even in my own State except under *subpœna*. I was again written to by Col. Withers a few weeks ago making the same appeal. At the meeting of the Board of Directors a resolution was adopted requesting my presence, or rather indicating their desire that I should attend.

"The reason given by the member of the Board, who made the motion, was that all the insane in North Carolina were entitled to

the sympathies of the authorities of that institution, whether inside of it, or outside, and that if a citizen of the State outside of its borders was insane, he was entitled to it. They indicated their desire that I should attend the trial, and testify if need be, in behalf of *the truth*, expressing their confidence in my honesty and judgment at the same time. Applications to the Board were read, written by the counsel for the defence, and on these the resolution was based. I receive no pay for my attendance. I would not accept a dollar if it was tendered me. I never did receive pay in any case in which I gave expert testimony.

"The tendency of all cases of insanity is toward dementia. Cases of paroxysmal insanity are followed by lucid intervals. In the case I alluded to, of the patient who imagined she was the wife of the Prince of Wales, there were lucid intervals of comparative soundness as far as the conduct and conversation were concerned. A person may be laboring under delusional insanity, and yet be able to attend to business. The case I mentioned of the Hillsborough lady, is a case in point."

Q. "Have you any knowledge of any case with a stronger hereditary predisposition than this?"

A. "I know of no case, either of personal observation or on record?"

Cross-examined by the prosecution :

Q. "What are the physical indications of hereditary insanity, and how are they to be ascertained and detected by the experts?"

A. "The indications physically of hereditary insanity are exhibited during life by the phenomena and conduct."

Q. "In what way is the expert to acquaint himself with the phenomena, that is to say, with the conduct of the sufferer?"

A. "The best criterion is to compare the patient's *present* self with his *former* self."

Q. "By what means, in what way, and under what circumstances is the comparison to be made?"

A. "From the history of the case as detailed by observers."

Q. "Does it not usually require a personal knowledge of the temperament, habits and conduct of the sufferers, a rigid inquiry into the disease and habits of the ancestors, a knowledge gained by personal examination and inspection of the sufferer himself, to

learn whether or not he was suffering from any functional derangement or constitutional disease?"

A. "To form an opinion quite satisfactory to the expert, long accustomed to the observation of insanity, requires only an intelligent history of the case, but to verify it absolutely, would require a personal examination. I have admitted into the asylum more than eight hundred persons, upon the history of the case, only one of whom I have found to be sane afterward."

Q. "What is the value of evidence detailed as to the insanity of the sufferer, by non-medical experts?"

A. "The difference between a non-medical and a medical expert consists in the qualifications of the two classes—obtained by the latter by study, practice and critical comparison."

In reply to further questions upon the respective value of the testimony of experts and non-experts in regard to the existence of insanity, the witness explained that every truthful description connected with the conduct or history of a case, in other words, all the facts related were of value, but the conclusion from those facts, that is, the opinion resulting from the comparison and correlation of those facts was only of scientific value when pronounced by an expert, whose mental and medical training and experience especially fitted him for weighing the facts correctly and impartially.

Being asked many questions of a variable character in relation to a hypothetical case, the witness stated that he should not be satisfied with an opinion about such a case, without inquiry into all the circumstances necessary to come to the conclusion. Should want to know more of his personal history. Would not judge of insanity by any one symptom, however common it might be, but by a collection of facts. Upon inquiry he repeated the declaration that insanity transmits the susceptibility to disease, although there are many cases in which *fully developed* insanity cannot be traced to heredity.

Question by the court. "You said that the prisoner acted under a delusion that it was his duty to kill his sister in order to avenge his own and his family's honor. Suppose there had been no declaration from him that he acted from that cause, what would you say induced him to commit the act?"

A. "I should say he committed the act on account of a diseased

condition of the brain which so impaired his will power that he was not capable of restraining it under exciting causes. I do not care what the cause may have been. A combination of causes might produce the result upon a diseased brain."

Question by the court. "Do you mean to say that a man has will power enough to avenge an indignity, but that he has not will power sufficient to forbear to avenge the insult?"

A. "I think with a diseased mind acts of great violence may be committed by an insane influence, when the will power is not sufficient to control the action of the sufferer."

By the court. "Can a man make up his mind to avenge an insult, which has in fact been offered him, without having will power?"

A. "I think in diseased minds violent acts are frequently committed without any sound judgment, merely from impulse, in its common acceptance."

By the court. "Suppose A, who had inherited a predisposition to insanity, should have his nose pulled by B, and should slay B, how can you determine whether he acted from an insane impulse growing out of his diseased mind, or from a voluntary intention to avenge the insult offered him?"

A. "It is very difficult to determine motives, but where there is a sufficient amount of brain disease to impair the thought and weaken the will power, I do not believe the patient could control himself, whatever might be his impulse or motive."

By the Court. "Do you mean to say that in the supposed case you cannot tell whether he did the slaying from violent temper or from insane impulse?"

A. "I think it would be from lack of will power more than impulse."

Q. "Then you don't think a sane man would kill another for pulling his nose?"

A. "I don't think a sane man ought to."

The cross-examination continued for the remainder of the day, taking a wide range concerning the causes, manifestations and characteristics of insanity, the physical effects of the disease, its hereditary transmission, and the responsibility of the insane for their acts, developing only the reiterated expression of opinion by Dr. Grissom that he recognized insanity only as mental impairment produced by

a disease of the brain, and did not believe in a moral or an emotional insanity existing without a diseased brain, the physical basis of all mental faculties, and that his opinion was, that the prisoner suffered from ordinary insanity with delusions, the opinion being based upon the family history of the prisoner and his *own* history. This closed the testimony adduced on the trial.

Minds accustomed to the examination of cases of homicide by the insane, would consider that no great doubt need be entertained in regard to the condition of Dejarnette.

But it should be remembered that the whole atmosphere of the trial was unfavorable to the prisoner. The highly colored accounts of an affair naturally shocking in the highest degree, as rendered by the local press, had established his guilt in many minds. The charge of the judge in the first trial had been heavily against the wretched boy, with the added weight of the verdict of murder subsequently rendered.

It was necessary to summon a *venire* from another county, to obtain the intelligent and patient jury before which the case was tried.

The mental attitude of the community, inspired by horror at the sad fate of a girl, the daughter of a family once so esteemed, was hostile to the prisoner. The able and upright judge, whose power was universally recognized, was trying a prisoner whom he had once sentenced to execution, and was fettered by supposed principles of medical jurisprudence, (as we shall hereafter see), in connection with the vital portion of his charge as bearing on the defence, which have been rejected in the highest tribunals as unworthy of the better knowledge of to-day, and which were even disregarded in the very case in which those principles were originally announced, many years ago.

The devoted counsel for the accused, Messrs. E. B. Withers, Barksdale, Peatross, Harris, Reid and Boyd, had to struggle against these adverse influences, added to which was an able prosecution, whose zeal could scarcely be distinguished from vindictiveness, and whose ambition seemed to be directed to break down the barriers which medical and legal science have, with joined hands, erected stone by stone, between the victim and the cry of the mob, thirsting for revenge.

The boldness of the declaration that the "visionary theories" of

the experts were not in accordance with the law of Virginia or of North Carolina or of England, can hardly be excused by the ignorance which accused the medical experts of having invented the word "heredity," and "coining it" to suit their peculiar views of insanity.

Annoyances are doubtless to be expected by those of the medical profession who announce stubborn and unpopular truths to over eager lawyers, until all the members of the bar have learned to recognize the expert in his true position of *amicus curiae*, and as the friend and not the foe of justice.

The corner-stones of absolute conclusion in Dejarnette's case are :

1. The existence of hereditary predisposition to insanity.
2. Its development as exhibited in many ways, and notably by delusions.

It is true that the acceptance of the fact of the power of *heredity* has long formed one of the elementary propositions of medical philosophy, but in view of efforts to debauch and mislead the public mind, it may be not unwise to return to these familiar principles which have been characterized as visionary and peculiar.

Let us record from the vast number of facts industriously gathered from the experience of mankind, a few conclusions, from the first authorities in medical jurisprudence in England, on the Continent, and in America.

It will be found that from the earliest observation to the present day the weight of intelligent opinion, and from the most skilled observers, grows steadily more and more, as information widens, to the acknowledgement of the overwhelming importance of *heredity* in the development of insanity.

The Medical Jurisprudence of Alfred Swain Taylor, F. R. S. and Lecturer on Jurisprudence at Guy's Hospital, London, is of the highest authority in the courts, not only of this, but of all English speaking peoples. He says :

"There can be no doubt, from the concurrent testimony of all writers on insanity, that a predisposition to this disease is frequently transmitted from parent to child through many generations.

"The malady may not always show itself in such cases, because the offspring may pass through life without being exposed to any exciting cause ; but in general it readily supervenes from very slight causes.

"M. Esquirol has remarked that this hereditary taint is the most common of all the causes to which insanity can be referred, especially as it exists among the higher classes of society. Among the poor, about one-sixth of all the cases may be traced to hereditary transmission ; and other authorities have asserted that in more than one-half the cases of insanity, no other cause can be found for the malady."—*Taylor's Medical Jurisprudence*, p. 506, 2d Edition, 1873.

It is subject, also, like other hereditary maladies, to the phenomena of atavism, or reëpearance after a healthy generation.

The acknowledged master of modern German thought, in this department of medical science, Prof. Greisinger, of the University of Berlin, states the following conclusions :

"Statistical investigations strengthen very remarkably the opinion generally held by physicians and the laity, that in the greater number of cases of insanity a hereditary predisposition lies at the bottom of the malady ; and I believe that we might, without hesitation, affirm that there is really no circumstance more powerful than this. * * * * *

"At present we can claim for tuberculosis alone an influence of hereditary circumstances in some degree equal to that exhibited by mental diseases."—*Griesenger on Mental Diseases*, p. 150.

On page 151 of the work from which the above is quoted, may be found an array of statistics covering the questions involved.

Congenital disposition to insanity is more frequent where marriages take place within a limited circle of families.

Thus in the asylum at York, (especially destined for the members of a religious sect, whose tenets encourage marriage only with members of the sane belief,) direct predisposition is exhibited in one-third of the patients, and indirect in another sixth, making one-half altogether.

Griesinger also remarks :

"It appears that hereditary influences may be highly and quickly increased by drunkenness, by disease, and in short, by various intercurrent disorders of the parents at the time of procreation."—*Vide Supra*, p. 156.

This eminent psychologist, whose skill and experience were so great, farther declares :

"Of the general diagnostic characters of hereditary mental disease the following may (according to Morel) be considered the chief :

"This kind of insanity generally breaks out suddenly from insignificant external causes: it shows itself often in marked emotional insanity, the intelligence remaining relatively intact; there are considerable remissions and exacerbations. Strong hallucinations and paralytic dementia are somewhat rare; while, on the other hand, there exists a strong tendency to delirious conceptions. Although still in a condition of relative health, such individuals render themselves remarkable by their great emotional excitement, and therefore, their great dependence on the influence of the external world."—Page 156.

The same writer points out in relation to cases of melancholia in which destructive or murderous tendencies appear :

"Not only have these acts of violence towards others, inasmuch as they are often perpetrated upon those most loved and cherished by the patient, fundamentally the same essential character as the tendency to self-injury and self-mutilation; but, in general, both depend upon the same fundamental state of morbid negative emotion.

* * * * *

"As to the psychical motives which give rise to these acts of violence in persons already laboring under melancholia, these impulses would seem to be due, in part at least, to an actual delirium of the intelligence or of the sensorial perception. * * * *

"To these are very closely associated those violent deeds which are suggested under the idea, evidently melancholic, that everything in this world is bad, that everything is abandoned and lost, that for example innocent children may be best delivered from the misery of this world by an early (violent) death, &c.—Page 261.

The learned author also points us to the fact that cretinism is hereditary in the highest degree, although the most complete cretins have reached a condition of degeneracy which prevents the production of offspring. In like manner the supervention of imbecility in the progressive heredity of insanity leads to sterility.

If we examine the views of distinguished alienists in this country, in England and in Canada, we find an increased expression of opinion, with great unanimity and earnestness of conviction, in regard to the extraordinary influence of heredity.

At a meeting of the Association of the Superintendents of American Insane Asylums, at Toronto, in 1871, Dr. Ray declared, in the course of a discussion upon the causes of insanity, that

"It has always been—or, certainly for a good many years—understood that there was an agency for the production of insanity, whose action is independent of local causes; that insanity may be of a hereditary character, transmitted from one generation to another. I think the tendency of our progress, has been to enlarge the operation of this cause, and our records show that its potency has been more strongly felt as we have advanced in knowledge of the disease.

"I think that during the time hospitals have been opened in this country, the figure indicating hereditary cases, where it has been expressed at all, has been steadily increasing; and as we have inquired more and more strictly, we have found that in the admissions to our hospitals, the influence of this agency has been more and more recognized."—*American Journal of Insanity*, Vol. 28, p. 263.

In the same discussion, Dr. Gray remarked, that

"In undoubted hereditary cases the same causes operating to induce insanity in those in whom there was no hereditary tendency, also induced it in those in whom there was a hereditary tendency; but as remarked by Dr. Kirkbride, it required a much stronger influence in the same direction to develop the disease in those who had no constitutional tendency."—*Vide Sup.*, p. 266.

In the same discussion Dr. Cook who has since died at the hands of an insane patient, a martyr to professional duty, took the ground that hereditary influence alone, can develop insanity without other cause, and related an instance of a young woman who inherited exaggerated timidity and diffidence from the father, and lived more and more in seclusion, until she covered her face from her mother, and would eat only after dark, developing insanity. Says he:

"Having all the facts before me, I could find no other cause than hereditary transmission, developing as I have stated. That such a change occurred, and that the disease can be transmitted and developed, without other cause, I think is an unquestionable fact."—Page 267.

The action of an exciting cause of insanity upon the brain, is thus described by Blandford, a well-known English authority, often referred to by Ray:

"The reception of a mental shock causes immediate activity of the brain, rapid molecular change in the centres, and, in consequence, the determination of arterial blood to the brain. Even muscular structures may be set in motion, and this involuntarily. Very likely there will be trembling, or sobbing, or crying. The sufferer may pace the room, or rock himself, or wring his hands. All such acts imply a continued change going on in the centre; and they also imply a want of controlling power."—*Blandford, Insanity and its Treatment*, p. 50.

Dr. Maudsley says :

"There is the strangest aversion on the part of the public to admit that an extreme hereditary taint may be a not less certain cause of defect or disease of mind, than an actual injury of the head, and yet it is the fact.

"The hereditary predisposition to insanity signifies some unknown defect of nervous element, an innate disposition to irregularity in the social relations; the acquired infirmity of the parent has become the natural infirmity of the offspring, as the acquired habit of the parent animal obviously becomes sometimes the instinct of the offspring.

"Hence comes the impulsive or destructive character of the phenomena of hereditary insanity, the actions being frequently sudden, unaccountable, and seemingly quite motiveless." * * *

Says the same eminent psychologist :

"It is worse than useless for a sound mind to attempt to fathom the real motives which spring up in a madman's mind. * * * Only long experience and careful study of actual cases of mental disease will suffice to give any sort of adequate notion of what a madman really is."

Dr. John P. Gray, whose experience has been so great, while for many years the Superintendent of the New York Insane Asylum at Utica, affirms as follows :

"In regard to insanity, this question of heredity is of the highest possible import. A distinguished writer (Maudsley) says : 'the insane neurosis which the child inherits in consequence of its parents insanity, is as surely a defect of physical nature as is the epileptic neurosis to which it is so closely allied.'"—*Gray, Thoughts on the Causation of Insanity, Journal Insanity*, Vol. 29, p. 267.

This author also says in regard to hereditary neurosis : " Past all question, it is the most important element in the causation of insanity."

Dr. Eastman says, in relation to the development of hereditary insanity :

" A lady, residing in Washington, was the mother of a large family, was insane at the birth of the first child, and never entirely well thereafter. She was at different times an inmate of the several hospitals for the insane. I think insanity had shown itself in her ancestors. The children grew up dutiful and capable. The young men learned trades and were steady and industrious. About the year 1866, the oldest child, a young man of twenty or twenty-one, was brought to the hospital with acute mania, and died in a few weeks.

" In about two years the second child, then a young man of about the same age as the first at his death, died at the hospital, a few days after his admission, of typho-mania. In about two years more, the third son, having for a few days shown some symptoms of mental derangement, committed suicide."—*Journal Insanity*, Vol. 31, page 196.

Dr. Ranney states :

" It seems probable that hereditary influences become intensified in succeeding generations, and thus afford an explanation of a hereditary influence operating to give rise to insanity in children, in some instances at an earlier period than in the parents."—P. 197.

So, also, is the testimony of Dr. Everts, an eminent physician of the insane, in the West, who emphatically affirms :

" I have come to believe that there is an organic proclivity in a large majority of cases of insanity."—*Journal Insanity*, Vol. 31, page 194.

The field of historic evidence is full of instruction ; but the materials are too abundant for the limits of this paper. I will briefly refer to but two striking illustrations of the presence of the factor that alienists term *heredity* in the production of insanity.

A writer in the *Journal of Mental Science* has pointed out that since the ancestry of ordinary individuals is quickly forgotten, we may find the best illustrations of hereditary influences " in the fierce light that beats upon a throne." The history of royal dynasties

is preserved, and even their authentic portraits remain. A melancholy story is the record of the gradual degeneracy of the monarchs of Spain from the time of John II, of Castile, who in 1449 married by most unhappy choice Isabella, of Portugal, herself the grand daughter by a bastard son, of Pedro I, of Portugal, whom the impartial judge will declare to have been insane, as far back as 1367. For three hundred and fifty years, the fearful marks of nervous degeneracy appear and reappear in this royal but most miserable and afflicted line of human beings, until it went out absolutely in mental and physical decay and death in Charles II, in the year 1700, when the throne passed by will to the Bourbons of France, confirmed by the results of a bloody war.

With one exception only, each of the eight successive generations occupying the throne was attended by the grim spectre behind the regal purple, in its varied manifestations of mania, epilepsy, melancholia, bodily deformity, and imbecility until the gloomy procession ended at the grave.

Without lingering over the myriad circumstances attesting this biography of woe, we may briefly note that John II, of Castile, was weak of mind, left the kingdom to favorites and lamented that he had not been a mechanic rather than a king, on his deathbed, and his wife Isabella was insane for many years. The daughter Isabella, of Castile, the wife of Ferdinand, was of sane mind, and is a striking exception to the rest of her line.

Juana, Isabella's daughter, became insane, and was confined in a castle for nearly fifty years, dying as she had lived for years, in the lowest estate of humanity, and on a level with beasts.

Juana's son was the Emperor Charles V, who, with all his extraordinary powers in youth, became epileptic, melancholy, had a deformity by excess of size of the lower jaw which prevented perfect mastication, suffered intensely from headaches, and abdicated the throne, at fifty-six, on account of ill-health.

Charles V married his cousin Isabella of the line of Portugal, and his eldest son was Philip II, whose strange and terrible character of superstition, cruelty and gloom has been pictured in frightful colors. He married his cousin by both ancestral lines, an immediate grand-daughter of the wretched Juana, and their son Don Carlos was a maniac, imprisoned by his father like a criminal,

where he died in a dungeon, after frequently attempting suicide. Phillip II by a fourth marriage, espoused his own niece, and the fifth child of that marriage lived to be the feeble and nearly imbecile Philip III, a low sensualist, whose first son Prosper was from birth a victim of convulsions, dying early, and leaving Philip IV to be succeeded by Charles II, the last of the line. No more striking picture of imbecility than this last relic of the ancient monarchy can be conceived than is presented in the picture drawn by Macaulay of this poor creature, ignorant of his own provinces even by name, epileptic, without hair or eyebrows, husband of two of the fairest princesses in succession of France and Germany, yet impotent, and hence leaving no successor—the family enlargement of the lower jaw so great that he could not masticate food, and swallowed soups and sweetmeats just as they were presented—finally the utter decay of all his faculties. What more signal illustration can there be, of the truth of the declarations of medical science.

Every day the same fact stares us in the face, as we read of the conquering march of Henry V, of England, through the realms of the King of France, Charles VI, whose insanity is universally acknowledged. The French monarch after the defeat at Agincourt was obliged to give his daughter to Henry in marriage, but the wretched progeny of this union with the daughter of a lunatic, proved to be Henry VI, whose fate it was to be the innocent cause of the wars of the Roses, and one of the most pitiful objects of compassion on the historic page.

A remarkable illustration of the influence of hereditary predisposition to defective mental and physical constitution, may be observed in the history of the family discussed under the name of "Juke," as detailed in fifty pages of the Thirtieth Annual Report of the Executive Committee of the Prison Association of New York.

There is barely opportunity to briefly refer to this interesting history. The progenitor "Max," was born between 1720, and 1740, and successive generations have been traced through 709 persons, alive or dead.

No less than 180 of these received county support, in or out of the poor house, during sixty-four years of which the institution kept the record. Many were insane, and no less than fifty-two per cent. of the women, or more than half, were halots in some degree.

The committee reckon, by their computation, a loss of a million of dollars to society, through this single family, to say nothing of pauperism, crime, idiocy, and insanity yet to come.

It would seem that it is time to recognize the gravity of this subject.

If we may now conceive the existence of heredity to be more than a visionary theory, it may be in order to consider what evidence has been thought trustworthy, in proof of the actual presence of a diseased brain, which is insanity. Also we may properly examine how far the nature of particular delusions should affect the fact of the existence of such disease, which the learned judge in his charge, presented as of prime importance.

So far as symptoms of the existence of insanity are concerned, Dr. Brigham testified in the case of Griffin for the homicide of Coit, who had debauched Griffin's wife: (August, 1846.)

"As evidence of insanity I would consider the state of his bodily health, his sleeplessness, his fits of abstraction, taciturnity at times and then talking unnaturally rapid, * * * his change of character and countenance noticed by all after his separation from his wife. * * * I have really known a case of insanity not preceded or accompanied by sleeplessness. * * * I can hardly conceive of a sane man after committing an act like that the accused is charged with, becoming at once calm and indifferent about the result, asking no question whatever about it. * * *

"I cannot regard it as exceedingly strange that an insane person should prosecute his business correctly for awhile, and then have a sudden paroxysm of insane excitement, commit some heinous act and then become calm, and act and converse rationally for a time; for I have seen a considerable number of such cases, though they may be deemed rare."—*Journal Insanity*, Vol. 3, p. 257.

A. B. de Boismont, the French alienist, in an article upon the works of Mittermaier, the famous juris-consult of Germany, has the following:

"In order to give a positive opinion of the presence of insanity, says Mittermaier, it is necessary

"1st. To search for indications of a change in the habitual disposition of the accused.

"2. To ascertain the physical and psychological symptoms of the disease.

"3. To point out the causes that may have acted on the brain.

"4. To mark carefully the way in which the mental affection has manifested itself."—*Quoted in Journal Insanity*, Vol. 27, p. 244.

Boismont says :

"Every physician for the insane has met with cases of irresistible impulse, which appear entirely independent of any commonly received type of mental alienation." * * * —Page 247.

Fixed ideas in the insane may have deplorable results. From Mittermaier's dissertation upon medico-legal investigations we learn that two melancholiacs, who had killed their children, one to save them from misery, the other from dishonor, were convicted, because the medical expert, instead of attributing their acts to derangement, imputed them to crime.

Mittermaier in an able review shows their conviction to be owing to the fault of the experts.

He was law-professor of the University of Heidelberg, and the most illustrious juris-consult of Germany.

In reference to extreme wakefulness as a symptom of insanity, Dr. Gray states :

"Any bodily condition which disturbs the mind is too important to be overlooked or ignored. Prolonged wakefulness, though it may not apparently disturb the mind, indicates a condition of the brain which is not natural, and which should be inquired into."—*Gray, Journal Insanity*, Vol. 27, p. 407.

The effect of spermatorrhœa, as one of the inducing causes of insanity, has often been illustrated in cases as reported, and may be found in the case of George Hammond, who killed Worley, Lexington, Ky., 1857. Prisoner found insane.—*Journal Insanity*, Vol. 16, p. 168.

In examining the question of responsibility to the law, Dr. Bucknill, a very high English authority, and long a Commissioner in Lunacy, says with emphasis :

"Responsibility depends upon *power*, not upon *knowledge*, still less upon *feeling*. A man is responsible to do that which he can do, not that which he feels or knows it right to do."—*Bucknill, Unsoundness of Mind in Relation to Criminal Acts*, p. 59.

To illustrate a typical case of hereditary insanity, and the difficulty of connecting the act with the delusion, in such manner as to

justify the conduct by the delusion, the following instance may be narrated, which is presented by Dr. Litchfield, in his report of the Rockwood Criminal Lunatic Asylum for 1866, at Kinston, C. W. :

“One patient, a young man of gentle and affectionate temperament, came to this country with a mother and two sisters—to whom he was devotedly attached. One small, but dark, cloud lowered over him. He had the hereditary taint of insanity. When he was three years old, his father, in a fit of recurrent mania, hung himself on a tree in Windsor Park.

“In process of time, this young man became restless and irritable, and began to have delusions. He loved his mother very dearly, and conceived the idea that she was too good to live, and ought to be an angel in heaven. He watched patiently for an opportunity—cut his mother’s throat; and, when she died, triumphed in the belief that she had been translated to heaven.”—*Journal Insanity*, Vol. 25, page 122.

He was manifestly insane, was acquitted, and subsequently recovered in the asylum at Kingston. There he lived an industrious and useful life, deeply deploring his sad delusion.

The charge of the learned judge in the Dejarnette case while containing much that commands our assent, and represents the claims of justice with impartial care, on the most vital point of the defence, enunciates a doctrine which is as far from representing the enlightened spirit of modern jurisprudence, as the utterances of Hale in condemning witches to death are from modern opinion concerning the reality of witchcraft. The language as reported in the journals of Danville is as follows :

“As you have heard the statement of the medical experts that in their opinion the accused did the killing under an insane delusion, the second kind of insanity to which I have alluded, the Court will explain to you what is meant by an insane delusion. A delusion is a false belief, but whether a criminal offence is to be excused or not, when committed under a delusion, *depends altogether upon the character of the delusion*. A criminal act done under a delusion, is only excused, if the delusion had been true. For example, if a man under an insane delusion, really and truly believed that another was about to take his life, or do him some great bodily harm, and under such delusion the insane man kills the other, from whom he expects

the danger, the law excuses him, because he acts in supposed self-defence, and would have been justified if his belief had been true.

"Another example is where the person killing fully believes that the act he is doing is done by the command of a superior power which supersedes all human laws and the laws of nature.

"But where a man, provoked by an insult or an indignity, offered to his own and his family's honor, such a delusion is not recognized by the law, as an excuse for the crime.—*Extract from Charge of Hon. A. M. Aiken, reported in Weekly News of Danville, April 20, 1881.*

If it is really law in the State of Virginia or North Carolina, or England that the character of the delusion is to fix the existence of criminal responsibility, then all the boasted advance of medico-legal science from the days of George III, is a fiction, and the most acute observers and experienced reasoners are wrong. If this monstrous doctrine remains in the law as a relic of the pupilage of mankind, it is time that it was being considered by the section of Medical Jurisprudence in the American Medical Association.

It is a return to the errors not only of the McNaughten case, but of the Hadfield, and sets at naught, the well-established facts of three-quarters of a century.

That this may be more clearly seen, let us return to first principles, as they are admirably stated by the distinguished Commissioner in Lunacy for the State of New York, both lawyer and physician, and Professor of Medical Jurisprudence in the Law-School of Columbia College, New York. In his work on the Judicial Aspects of Insanity, is the full elaboration from which the following excerpts are made :

He reminds us with fine effect that

"All positive knowledge of insanity has been derived from the labors of physicians, who have been able to treat it successfully only in proportion as they have treated it as a disorder associated with disease of the bodily organs."—*Ordronaux, Judicial Aspects of Insanity, Introduction, page 19.*

"In medicine, insanity means an established and prolonged departure of an individual from his natural mental condition, arising from bodily disease, and not the immediate consequence of self-production."—Page 26.

Dr. Ordronaux quotes the following admirable expression from the bench :

"If," says Judge Doe, in *State vs. Pike* (49 N. H. 441), "the tests of insanity are matters of law, the practice of allowing experts to testify what they are should be discontinued ; if they are matters of fact, the judge should no longer testify without being sworn as a witness, and showing himself to be an expert. * *

"But the precedents require the jury to be instructed in the new medical theories by experts, and the old medical theories by the judge."—Page 22.

Dr. Ordronaux says emphatically :

"Insanity being always a question of fact is not amenable to any legal test. * * * The only question which the law can consider in relation to it, is the part which it plays as an involuntary instigator of human conduct and a controller of moral liberty."—*Judicial Aspects of Insanity*, page 28.

"No lunatic is wholly without reason. In the midst of lunacy the logical operations of the mind, though disturbed, are not necessarily extinguished. There is a constant juxtaposition of reason with unreason, each crowding the other in turn out of the chair of government."—Page 31.

"It must be self-evident that no particular kind or degree of delusion constitutes insanity. As minds vary in original power and scope of reasoning so their action, when disordered, will follow in some measure the limits of the mould in which they have habitually exercised themselves."—Page 33.

"No single symptom *per se* constitutes absolute proof of insanity. Symptoms must be grouped, and it is only by a differential comparison of the present and past states of the individual mind that we can deduce any definite conclusions as to its departure from a state of sanity." * * * —*Important*.

"A knowledge of right and wrong is possessed by the majority of lunatics as a class. Its absence is exceptional. It cannot, therefore, be any test of their power of controlling their conduct, any more than of controlling their disease.

"They are always under some form of mental duress while their disease lasts ; and the only test of their criminal responsibility is their capacity to choose *not* to do an act to which they are impelled

by disease, coupled with the power of enforcing obedience to that choice." * * * * * —Page 34.

The following cases are referred to in illustrations of principles stated. (People vs. Kleim 1 Edm. S. C., n. p. 34; Comm. vs. Haskell, 2 Brewst., 401; Stevens vs. State, 31 Ind., 485; State vs. Felter, 25 Iowa, 67.)

The author discusses the vexed question of the legal limitations of insanity in a spirit of calm but clear and effective reasoning.

"It must be evident to all that since insanity is confessedly a question of fact; a physical condition with mental coefficients whose value is changeable, and whose weight, as proofs, is the resultant of averages struck by competent observers—it must be evident that insanity at law can have no more limitations put upon its meaning than the recorded history of its phenomena can justify." —*Ibid*, page 400.

The danger of wrong doing in the attempt to draw lines of legal responsibility between partial and total insanity is well exhibited in the case of Montgomery (13 Abb. Pr. N. S.) 222, in which Smith, P. J., in charging the jury, said :

"Insanity is a kind of generic word, and includes various degrees of diseases of the mind. There are degrees of insanity, in some of which there is no mind left. In other degrees there are lucid intervals. There are persons who are afflicted with dementia, which, as I understand the testimony of the physicians, is a gradual impairment or enfeeblement of mind. If that is what they mean, and such I understand to be the view of Drs. Gray and Moore, it is for you to say whether that degree of insanity had so far progressed with the defendant as to deprive him of the knowledge of the quality of his act." And subsequently, on *certiorari* of the same case at the General Term, Mullin, P. J., said :

"While I am of the opinion that, for some days before the killing, the prisoner was partially insane, and at some times during that time, *more so* than at others, there is no evidence that he was not capable of distinguishing right from wrong at any time between noon on Saturday and the commission of the crime. Indeed, we might go further, and say that at no time, except when he was in one of the epileptic fits, is it proved that he was incapable of distinguishing right from wrong."

And the conviction with the sentence of execution would have added another to the long line of judicial murders but for the intervention of the executive upon the advice of a commission of medical experts. Montgomery has for years been confined in the asylum for the criminal insane at Auburn, New York, and his irresponsibility has long since been demonstrated and admitted.

Prof. Ordronaux says justly :

"The following considerations commend themselves to our sense of justice :"—Page 404. Says Prof. Ordronaux :

"When a man is admitted to be partially insane, all presumptions should be against his capacity to regulate his conduct as sane men do theirs. And every doubt should be construed in his behalf, because he cannot be considered any longer as a free moral agent."—*Judicial Aspects of Insanity*, pp. 404-5.

"In the *People vs. McFarland*, (8 Abb. Pr. [N. S.] 57), it was held that the prisoner must not only know that the act is unlawful and morally wrong, but must be deprived of reason sufficient to apply such knowledge and to be controlled by it. The power of distinguishing between right and wrong in reference to the act, is not alone decisive."

"Although," Dr. Ordronaux remarks, "the effect of these judicial advances was swept away in 1873, in the case of *Flanagan vs. the People*, (52 N. Y., 469), reverting to legal tests which are of the past, yet in many States, jurisprudence is being improved by the light of modern knowledge, as evidenced by (*State vs. Jones* 50, N. H., 370; *Stevens vs. State*, 31, Ind., 485; *State vs. Felter*, 25, Iowa, 67; *Anderson vs. State*, 43, Conn., 514.)

"The attempt to establish a legal test of insanity, founded on so variable a symptom as delusion, is another illustration of the confusion into which the effort to set a legal boundary around the operations of a physical law always eventuates. Such errors belong to the infancy of knowledge in any particular science."—*Ibid*, page 419.

"In *Queen vs. Pate*, Dr. Conolly, the very highest authority in Europe at that time, testified that the prisoner was of unsound mind, but that he did not suffer from any particular delusion, and that he was well aware that he had done wrong and regretted it."—Page 422.

“It is unfortunate that courts should maintain a contest with science and the laws of nature upon a question of fact which is within the province of science and outside the domain of law.” (Per Doe J., in *Boardman vs. Woodman*, 47 N. H. 150).—Page 423.

“The knowledge of right and wrong is common in all forms of mental unsoundness outside of idiocy and dementia. All experts in insanity affirm this, and it has also been put upon record in the most emphatic manner. Thus: At the annual meeting of the British Association of Medical Officers of Asylums and Hospitals for the Insane, held in London, July 14, 1864, at which were present fifty-four medical officers, it was unanimously

Resolved, “That so much of the legal test of the mental condition of an alleged criminal lunatic as renders him a responsible agent, because he *knows* the difference between right and wrong, is inconsistent with the fact, well known to every member of this meeting, that the *power* of distinguishing between right and wrong exists very frequently among those who are undoubtedly insane, and is often associated with dangerous and uncontrollable delusions.”—Page 423.

“There are states of mental catalepsy in which the will cannot act, although the perception be perfect. The knowledge of right and wrong may be good enough but the power to choose may be paralyzed. If these states can be shown to result from permanent mental disease, why should the law refuse to recognize them?”—Page 426.

Our great English authority is equally explicit in discussing insane delusion. So far as the justification of the act is concerned, by the nature of the delusion with which it is connected, Taylor says :

“Much stress was formerly laid upon *the delusion being connected with the act*, in cases of alleged insanity; but it must be remembered that, except by the confessions of insane persons during convalescence, it is not easy for a *sane mind* to connect the most simple acts of a lunatic with the delusion under which he labors.

“Every act of homicide perpetrated by a really insane person is doubtless connected with some delusion with which he is affected; but it by no means follows that one who is sane should always be able to make out this connection, and it would therefore be unjust to rest the responsibility of an accused person upon an accidental discovery of this kind.

“Cases elsewhere related show how difficult it is to connect the delusions of the insane with their acts. (Page 483, ante.)

“Lord Erskine’s doctrine in Hadfield’s case, that, in order to render a person irresponsible the act should be traced to the delusion, is therefore, medically speaking, untenable. The connection of a delusion with an act, when it can be really traced, may serve to exculpate an accused party, but the non-establishment of this connection proves nothing.”

Again, he suggests the true test :

“Each case must be determined by the circumstances attending it ; but the true test for irresponsibility in all doubtful cases appears to be, whether the person at the time of the commission of the crime had or had not, a *sufficient power of control to govern his actions*, or, in other words, whether, knowing the act to be wrong, he could not avoid the perpetration of it. This involves the consideration, not only whether insanity existed in the accused, but whether it had reached a degree to destroy, not a consciousness of the act, but *volition*—the will to do or not to do it. * * *

“If he was led to the perpetration of the act by an *insane* impulse, or, in other words, by an impulse which his mental condition did not allow him to control, he is entitled to an acquittal as an irresponsible agent.” * * * —Page 575.

“Want of self-control is one of the most marked features of insanity. According to Dr. Radcliffe, it is a symptom in all cases, and what is important in reference to responsibility, is that in the order of development it takes *precedence* of delusion.—*Taylor’s Medical Jurisprudence*, Vol. 2, 576.

Again :

“Most medico-legal writers agree that the best test for fixing responsibility on a person who has committed a crime is whether, at the time of its commission, he had or had not a sufficient power of control to govern his action. This view has been more or less advocated by Esquirol, Marc, Ray, Pagan, Jamieson, and other writers on the medical jurisprudence of insanity.”—Page 577.

“In the case of Mrs. Brough (Guilford, Summer Assizes, 1854), it was proved that the accused destroyed six of her children by cutting their throats, and then attempted to destroy herself. She was acquitted on the ground of insanity, although there was no proof

of mental derangement. These cases may be regarded as presenting fearful examples of that state which has been called homicidal mania, in which there were no previous symptoms of *intellectual aberration* amounting to *insanity* in the common meaning of the term, or of any irregularity of conduct on the part of the homicides to justify the interference with their civil liberty. A uniform feature of these cases was, that the murderous act was directed against those who were most closely connected with the homicides in blood, and to whom they were attached by the tenderest ties."—Page 579.

There are cases in which the force of circumstances compels a court to adopt practically the theory of homicidal impulses, as the following case, Reg. V. Jordan (Lewes Summer Assizes, 1872) will show. The prisoner was indicted for the murder of a child, whose throat he deliberately cut. There was no motive; he had previously borne an excellent character, and was very fond of children, but there was no evidence of mental disorder or intellectual insanity. His wife had deserted him some time before, and he had fallen into a state of great depression."—Page 588.

Martin B. is reported to have said :

"Under such circumstances it was for the jury to consider whether it would be safe to convict the prisoner of murder. When such impulses came upon men, according to the medical evidence they were unable to resist them. It would be safe in such a case to acquit the accused on the ground of insanity."

The prisoner was acquitted on the ground of insanity.

"In McNaughten's case the theory of the law as laid down by the judges, is, that 'notwithstanding a person labors under a delusion, if he commits an act which he knows to be contrary to law, he is liable to punishment.'

"Yet in that very case, although the conditions requisite to make out a case of insanity, as thus defined, were not complied with as the Attorney-General showed—"The prisoner was pronounced insane by several medical witnesses, and on this evidence the learned judge stopped the case, and directed an acquittal, without going into the question whether the prisoner was or was not ignorant of the illegal nature of his act." * * * *

The test of responsibility assumed by it is purely theoretical, and such that it cannot be strictly carried into practice.

"With this admission it appears to me unnecessary to occupy space with metaphysical discussions regarding criminal responsibility : for, however defective the rules,—if the *practice* of the law be in any one case in conformity with that which has been advised by writers on the Medical Jurisprudence of Insanity, although it may be adverse to the theory on which it is professedly based, this is all with which we have to concern ourselves :—the principle is admitted. The great defect in the England law is, not that it will not go even to the full extent of exculpating a person who has committed a crime with a full knowledge of its illegality, and under what may be called an 'uncontrollable impulse', or an impulse which his reason was not sufficient to control, but the *uncertainty of its application*."—*Taylor's Medical Jurisprudence*.

These are the wise declarations of the best jurisconsults and alas that uncertainty of application, is but another expression for the gallows and the opening grave closing over many a judicial victim, even from the time of the unfortunate Bellingham, to the present day ? How many the unhappy men whose deeds of blood were the result of disease over which they had no more control, than the paralytic has upon his wasted limb, or the fevered patient over his agonizing pains, how many we repeat of these sick men, entitled to the ministrations of humanity, have been learnedly consigned to the hands of the hangman ! I need not recount names familiar to the medico-legal student, that blot the criminal records of nearly every State of this Union.

That insanity results absolutely from physical disease seems to be hard to be understood, and yet nothing is more true than that the daily advance of medical science but confirms it more and more.

Probably no man in America has had wider advantages of observation than Dr. John P. Gray, Superintendent of the New York Insane Asylum, at Utica, who has treated thousands of cases of insanity, and has enjoyed the most complete opportunity for microscopic investigation of the brain of lunatics, with the aid of the best apparatus, and the services of special pathologists, and whose labors have received the recognition of the highest French authorities in psychology. He declares in a lecture at Bellevue Medical Hospital in 1875 :

"I have never seen a post mortem of the brain of an insane person,

however recent or mild the attack, where the microscope failed to reveal lesions of structure."—*Jour. Insanity*, Vol. 31, p. 450.

The same high authority, while the uncompromising opponent of the belief in what is termed moral insanity, without intellectual impairment, does not hesitate to say :

"It is true that when mind does give way, the evidences are generally first seen in the moral affections."—*Jour. Insanity*, Vol. 32, page 11.

"In his tabulated history of cases in the Utica asylum, he relates the case of a patient, who was once an educated man, of gentle and amiable disposition. He became changed in character, neglected his work, depressed, morose and irritable. One morning he walked out of the house, returned with an axe, and made a murderous attack upon his parents. Taken to prison, brought to the asylum, and subsequently became profoundly demented."—Page 157.

Dr. Gray points out that

"The mere fact that the psychical symptoms are so marked and profound in insanity, is due to its cerebral connection. In cases of fever we should not think of classifying according to the nature of the delirium, as we recognize that phenomenon as a mere symptom of disturbance of cerebral circulation."—*Jour. Insanity*, Vol. 29, page 282.

Does this not suggest the farther analogy of the extreme absurdity of measuring criminal responsibility by the particular relation of any delusion to any act, homicidal or otherwise ?

We should not forget how complex a concept is motive. As applied to an insane mind, in even attempting to associate delusions with acts, we must bear in mind that motive should be there contradistinguished from the same concept, as applied to the mind of normal sanity.

An insane mind cannot bring to bear upon an action the same elements of motive, or any other mental concept ; it cannot consider events and combine facts in their relative proportions, as does the sane mind.

Just as the chemist shows us that the same number of the identical chemical elements may by different groupings of their atomic constituents produce the most delicious or the most nauseous and poisonous of compounds, so the simplest events in the jumble of

the lunatic brain may assume the protean shapes of delusion unto its destruction.

From identical causes, in the insane mind, arise results uncertain, fitful and out of proportion—monstrous and misshapen beliefs come from want of power to coördinate facts, resulting in deeds that are indeed lamentable, but none the less irresponsible.

We cannot shut our eyes to these truths, nor can we construct a procrustean bed. Every case of insanity must be examined independently. No man stood higher as an alienist in England than Dr. Conolly, who says of insanity :

“Each case must be carefully considered by itself, with all its preceding and attending circumstances. No single text can be safely relied upon.”—*Conolly Lecture, Jur. Insanity*, Vol. 6, p 300.

Dr. Conolly points out the danger of quailing before the shameless clamor of the press for blood, and relates the following flagrant example of a surrender of an irresponsible being to a wild thirst for revenge :

“Not long ago, a boy not quite twelve years of age, took the life of his grandfather by mixing arsenic with the sugar which he knew he would take with his fruit after dinner.

“When visited in Newgate, this boy was found to be of stunted growth, with downcast look, face scarred with scrofula, and manner of indifference and insensibility. He was the unhappy son of an intemperate and epileptic father, who had died insane. From childhood he was shown to be incapable of remorse or shame. The medical attendants had previously pronounced him of unsound mind.

“Evidence to show his faulty organization was adduced at the trial, but entirely disregarded by the jury, and scoffed at by the judge, who declared that he rejoiced that a verdict of “guilty of murder” was returned. The press applauded the judge, and covered the doctors with abuse. If the jury were right, and the triumph of judge, was just and decent, the boy ought to have been hanged high in the air. But not even the power of the press, ever echoing the prejudice of the time, could prevent the exercise of some greater power, by which the execution of an insane child was mercifully and justly prevented.

* * * * “In the meantime, medical men ought not to shrink

from these cases. The same courage which causes the physician to brave the dangers of pestilence, should support him in this duty, beneath the assault of pesilent tongues and pens.

"Not the voice of the people calling for executions, nor the severities of the bench, frowning down psychological truth, should shake his purpose as an inquirer and a witness. His business is to declare the truth. Society must deal with the truth as it pleases."—*Lecture before the Royal College of Physicians in 1849. Published in Jour. Insanity. Vol. 6, p. 305. from the Lancet.*

If it is to be regretted that antiquated half truths yet govern the views of the bench in some sections, such errors are more or less inseparable from the conservatism that properly displayed adorns the ermine, but such cannot be said for the display of vindictive feeling on the part of the prosecuting officer, and especially for its gratification by unworthy disparagement of well-settled truths, as equally binding in law as in medicine, or efforts to mislead the jury, which only serve to strangle the very justice, which he is there the sworn officer to defend.

Certainly its first attribute should be the ingeniousness which is often so conspicuously absent in that performance of the solemn duty of the prosecutor. Thus to illustrate: When the attorney in the Dejarnette case informed the jury that Dr. Hammond was authority for the idea that "Deliberation takes away the idea of an insane act," as quoted by Dr. Grissom in his book entitled "True and False Experts," he failed to tell that jury that on the same page, Dr. Hammond was also quoted as declaring that

"The insane are very persistent in their revenge. I have known insane men occupied with the idea of killing their keeper for years, and finally do it."

Dr. Grissom had quoted the e opposite declarations of an expert, in different cases, as unworthy of medical science, and had stated that the former was so untrue that every alienist would receive it with a smile of contempt.

Yet not a word of this reaches the jury, anxious to know the whole truth, from the minister of justice armed with the sword of the law, and confronting the victim awaiting his doom at their hands. This betrays the tone of the prosecution, and justifies the fear that in many quarters our honored sister profession of the law

is betrayed in the house of her friends by those who are unable to rise to the lofty plane of action demanded by the severities of medico-legal investigation.

But the day is coming when minds fitted by education and training will be called to these responsible labors, and they will recognize that the honor and dignity of the commonwealth demand the cheerful acceptance of the whole truth, and while requiring every thing from justice, will scorn to accept anything from prejudice.

The result of the trial was the acquittal of James Thomas Dejarnette, by a verdict of the jury after fifteen minutes deliberation, upon the ground of his insanity at the time of the commission of the deed.

On the third day thereafter he was placed in the insane asylum at Raleigh without order from court under the circumstances, and by the wish of his friends. There is no reason to doubt that he was not only insane when the homicide was committed, but that his disease has affected his brain to the present time.

There is a painful reflection that duty requires to be made. It is the reprehensible course of the press in the wild clamor made against the verdict of the jury by editors who did not hear the evidence, nor were fitted to pronounce conclusions, any more than to undertake any other scientific problem, such for example as analysis in the chemical laboratory, or the diagnosis of obscure disease by surgical manipulation. How far this hasty judgment was justifiable may be illustrated by the nature of the attack upon the experts for their supposed support of the doctrines of "moral insanity" and "emotional impulse," when, in fact, neither expert believed in the existence of such things in the sense so vehemently deprecated, nor did the consideration of such doctrines form any part of the case under discussion.

It is clear, therefore, that the critics could not have given such attention to the evidence as the gravity of the question demanded, nor perhaps could it be expected of editors of the journals of the day, amid the rushing currents of news and thought, streaming in continuous flow, and demanding every energy to record and discuss.

Northern papers, and notably in Brooklyn, arraigned the verdict as the product of barbarous views of honor and of family pride in the

South, and I regret to say that while there were shining exceptions, some of our own journals spoke of the tragic verities of this trial in light and careless wit, all sadly out of place by the side of the sister dead in her early grave, whose faults and frailties were perhaps an inheritance of the ancestral woe, and over the blasted life of the ruined boy, who valued existence so little that he anticipated death, and was eager for the forms of trial to be over.

It is a healthy instinct which inspires the press to call for justice upon one who is a conscious and responsible violator of the law, but it is a fit and proper task for the medical journals of the land to dissipate baseless and vindictive notions of a rude justice, which is unworthy of a people sufficiently enlightened to ask and to judge before proceeding to condemn and to execute.

The evil of harsh and indiscriminate criticism dies not with the occasion, but it insidiously poisons the popular mind, and tends to erect barriers to the reception of scientific truth, to deter experts from their full duty, and to frighten juries into acquiescence with public opinion which may be nothing but public prejudice.

Have we learned nothing in modern times in every other department of medicine? In the days when the case of Hadfield occurred, a close room without ventilation, and red curtains were deemed by most physicians to be essential to the treatment of small pox. Would that be good treatment to-day? All other sciences have advanced. Would the courts accept the toxicology of even half a century ago?

Must then the medical expert in insanity, be required to stultify himself, and pronounce that to be false which he has the best reason to believe to be true?

It is certain that in any country under the control of enlightened men, the jurisprudence of this subject must infallibly reflect the conclusions of the best medical philosophy, and while circumstances may delay the result, the force of such medical thought, founded upon constantly increasing observation and corrected by experience, will sooner or later mould the expression and correct the errors of law.

The whole history of the common law exhibits the liberalizing effect of broader knowledge among medical men, by the reflex of changed opinion, as in Erskine as compared with Coke, or Eldon

with Hale. Nor has this process ceased to the present day. And why should it? Who, I repeat, would return to the system of medical practice of a century ago? And why should jurisprudence turn its face toward the darkness, while medicine and surgery seek the sunlight of knowledge?

Let the responsibility be accepted, of declaring what we believe to be true—the issue may be cheerfully left to that power which is the fountain of all truth.

REMOVAL OF BOTH OVARIA, OR “BATTEY’S OPERATION” FOR THE CURE OF INSANITY.

By T. B. WILKERSON, M. D., Young’s \propto Roads, Granville, N. C.

Miss N. P., of Virginia, *æt.* 19 years, of a nervo-sanguine temperament with a heredity to melancholia on the father’s side, a well developed brunette, highly educated, wealthy, having been granted all the luxuries and pleasures that fond and doting parents could give in an élite society, and adorned with all the graces that beauty and chastity could confer on the female. Menstruation began at fifteen years of age, flow regular for eight or nine months, after which time there was a cessation of the discharge, the patient suffering with the various nervous phenomena ascribable to amenorrhœa. At the age of sixteen years there was a return of the monthly molimen attended with severe neuralgic dysmenorrhœal symptoms, complaining prior to each period of a general malaise, frontal headache, pain under the left breast, dyspeptic eructations, bearing-down weighty sensation in the pelvic cavity, severe lancinating pains over both ovaries, the latter exceedingly sensitive to the touch; deep, dull, uneasy feeling in the sacral region, with an icy coldness extending down the hips and thighs. The continuance of these symptoms did not seem to impair the general health; appetite good, but bowels generally constipated. She was fond of dancing and ever ready to engage in the various innocent amusements of the young, with no marked desire for the company of men, but always maintaining a modest, dignified demeanor.

About the age of seventeen she attended a gathering of young people, necessarily being thrown into the society of young men for several days and nights. This excitement seemed to bear heavily on the physical and nervous system, being just prior to one of her monthly periods. After the subsidence of the flux, a noted change was clearly perceptible in the general behavior—the usual vivacity of spirits was gone. She became morose and irritable, easily disturbed by the least noise—complaining of a dizzy buzzing feeling in the head. She would frequently break forth from this deep sombreness into wild hysterical laughter, her conversation lascivious in character, disobedient to parents, finally ignoring mother and father she became a raving maniac with the one sexual idea always in the ascendant. There was a destructive tendency manifested towards everything surrounding her. So wild did she become that moral restraint doing no good, physical restraint had to be employed. This lady had been subjected to the best medical treatment obtainable for two years without any benefit accruing.

The parents horrified at the miserable condition of the child, being loth and fearing that no cure would result by restraint in a lunatic asylum, consulted me August, 1880, in regard to some radical relief. After getting up the general history, noticing the one bent in the conversation of the patient, examining well the ovaries (finding these very sensitive to the touch) and the external organs of generation, the symptoms all pointing to a morbid hyperæsthesia of the ovaria as the main cause of the trouble, and after fully apprising the parents of the danger to be incurred and the uncertainty of the operation affording a cure, as the only alternative, I proposed an ablation of both ovaries. To this they readily agreed.

August 10th, 1880, the patient before a good light on a firm table, having previously taken two ounces of brandy and ten grains of quinine, and under the influence of chloroform, assisted by Dr. James Sanford, I made an incision four inches in length in the median line, commencing near the pubis, dividing the skin and intervening parts down to the peritoneum, it was opened on a director to the extent of outer cut. Dipping my right hand in artificial carbolyzed serum, with two fingers I tried to reach the ovaries, but owing to the large amount of adipose tissue and the well-developed condition of the recti muscles, this was found impossible. The

whole hand was then passed into the cavity, the right ovary brought to the top of wound, a doubled carbolized ligature coated with carbolized wax, passed just below the organ; the string cut and each included half securely tied, the ends of the ligature cut short, the ovary excised above the loops and the stump dropped into the pelvic cavity. The left ovary was treated in a similar manner, after cleansing the peritoneal cavity of all liquids, the external wound was closed by the interrupted carbolized suture, and cloths dipped in carbolized glycerine applied, the dressings retained by a flannel roller. The upper surface of the ovaries presented a pale and corrugated appearance, the lower part of a deep pinkish hue.

The patient reacted well, no nausea; a strict watch was kept to prevent any interference with the dressings on her part.

The following pill which had been given prior to, was continued after the operation, one thrice a day:

R

Acid, carbolic, gtts. xij.

Quiniæ, sulph., grs. xij.

Pulv. opii, grs. vi.

M. Pills, xij.

But little food allowed for the first forty-eight hours, small pellets of ice given when desired. The patient confined principally to a milk diet with lime water during the after treatment. Small quantities of iced champagne occasionally. Wound united by the first intention. No pelvic trouble. She continued to improve, and at the expiration of three weeks had entirely recovered from the effects of the operation. There was a gradual change for the better in the mental condition; this improvement continued, and three months after the date of operation sanity was perfectly restored.

She has remained perfectly well and is now, nine months after, gay, lively, cheeks ruddy and in the full enjoyment of a vigorous mental and physical health.

This may be regarded as a crucial test-case of "Batley's Operation" the long continuance of the mania and the known paternal heredity to melancholia rendered a favorable prognosis doubtful; but there was no other resource left. It is fair and just that all departure from the regular beaten track in surgery and medicine should be subjected to the sharpest criticism, that the critique on

this operation has been a fair one, the future medical historian must decide. There is a strong prejudice existing in the minds of the medical profession and in the laity against this procedure, the idea is entertained that the removal of these organs completely obliterates all desire for sexual congress, that it destroys the symmetry and gradual contour of appearance, robbing her of those charms so beautifying to the female and that at one fell swoop she is placed beyond the pale of matrimonial enjoyment, in "youth prematurely old." That this is a mistaken notion is held by Drs. Battey, Goodell and other distinguished authorities. After the woman has arrived at the age of puberty and has menstruated, the impression of the existence of these organs has been so indelibly stamped on the mind of the female that no operation for their removal can ever efface the outline—the nervo-filaments will keep up the communication conveying the same impression to and fro as existed prior to the ablation of these organs.

In the majority of surgical cases, where a fatal result takes place, that result is due to some specific of blood-poisoning, either septicæmia, pyæmia or some of their genetic relations. Whether the *ab initio* causes of these diseases be fungoid, algoid, animal or vegetable spora, or a combination of both has not yet been definitely settled; but that the *materies morbi* is a germinal ferment, capable of setting up a zymotic action in the animal organism where it meets with the proper nidus and pabulum for its fructification is beyond a doubt. The surrounding atmosphere being loaded with this germinal matter, the sporule or animalcule (microscopic in character), readily wafted by the various wind currents circulating over the globe and by this means finding ingress to the vitalized organism there to set up its destructive work, and obeying the great law of nature, that all animate and inanimate matter must return to its primeval state, this scavenger has been given an inherent power enabling it to seek the point least guarded by nature, is an opinion held by scientific men. To find out the occult cause of these zymotic diseases, thus prevention, and treatment has occupied the minds of some of the most distinguished men in our profession from time immemorial. Being satisfied that the air surrounding the bed of the surgical patient was surcharged with this noxious material. Prof. Lister commenced his external carbolization, that

this was an advance in the right direction and that the mortality in surgical operations has been greatly reduced by this plan of treatment, has been well substantiated, in fact, most surgeons now employ some means for external disinfection of wounds. But in the hands of the most experienced operator, one well versed in carbolicized minutiae, and notwithstanding the utmost care on the part of the surgeons and his assistants, cases of septicæmia will occur. Now, it is a self-evident fact that this patient whose wound we are zealously guarding by external antiseptics is taking in at each inspiration this same deleterious air loaded with septic poison, and that this zymotic ferment is equally as destructive when taken into the system as it is when coming in contact with an external wound—this germinal matter will naturally seek the deeper injured point, for at this place nature offers the least barrier of resistance, and in all deep seated wounds, and especially is this the case after ovariectomy, there will be more or less oozing of bloody serum as long as this exuded liquid remains natural, nature is capable of a quiet absorption, but the moment this noxious germ meets this inflammable material, a spark will be lighted that the hand of man is powerless to arrest. With the view of averting this danger, I called the attention of the medical profession to the internal use of carbolic acid to prevent septicæmia, through the columns of the *Virginia Medical Monthly*, Sept., 1879, by this means the latent poisonous germs, and those being taken into the system at each inspiration are destroyed, the patient becoming antiseptized internally as well as externally.

Give the following pill thrice a day : Acid carbolic, xij gutt. ; Quinæ sulph., xij grs. Commencing eight or ten days prior to the time fixed for the operation so the system may become as fully imbued with the disinfectant as possible, and its use to be continued after the operation until all apprehended danger of septic poisoning is passed. In looking for an internal antiseptic, the surgeon will be likely to select that one possessing the most destructive power over germinal matter and one that can be given in the most concentrated shape, for the stomach is illy prepared for heavy dosing after the greater operations. Carbolic acid is supposed to act directly on the organized material, arresting its zymotic vitality, in addition to its being a valuable destroyer of septic matter, it also

acts as a gentle stimulant and depurant to the kidneys, thereby assisting in the discharge of noxious effete matters through these excretories.

I have completed several cases of ovariectomy; in one patient removing a fifty pound tumor whose cyst wall was adherent to the stomach and liver; dividing the abdominal parietes for nearly sixteen inches in length, (successful); out of this number one case has resulted fatally; but in the fatal case an ante and post mortem examination (the patient dying on the 7th day) showed there was no trouble in the pelvic cavity. In all the cases the pedicle has been tied and dropped into the peritoneal cavity; all operated on in warm weather. There has been a perfect immunity from pelvic trouble, no tendency manifested to septicæmia and but little increase noted in the standard heat of body—in each one of these cases acid carbolic was used after the manner recommended above.

In addition to these cases I have used it in a number of grave surgical operations, so far, with the most satisfactory results.

There is another point of interest to the surgeon as a preventive of septicæmia, viz.: the proper preparation and care of the ligatures. The silken string having been thoroughly carbolized, should be coated with carbolized wax, for if the ordinary wax is used, no matter how minute the quantity, it is still sufficient to act as an irritating foreign material. In the deligation of arteries during amputations, or in their continuity it has been a universal practice with me to cut short both ends of the string, leaving the loop to be cared for by nature. In the majority of instances the loop will be quietly encysted. The wound can be neatly closed and union by the first intention sought, a result not to be expected so long as these strings remained in the wound, for a fistulous track would be kept open until their separation. By this plan, all unnecessary foreign material is removed from the wound, lessening irritation and suppuration, thereby diminishing the dangers of blood contamination. By this means also, a fruitful source of secondary hemorrhage is avoided. These ligature ends are apt to become glued to the skin by blood or the secretions, and when thus attached in an amputated limb, the spasmodic action of the divided muscles puts an undue strain on the arterial loop or they may become entangled in the dressings and be subjected to a like strain, in a diseased condition of the arterial

coats or in an enfeebled patient, this undue tension on the ligature may cause too early a division of the artery with secondary hæmorrhage as a consequence. In a number of experiments with this ligature, thus cared for, in the lower animal, a dissection six months after its application showed the loop quietly encysted.

"PAS ENCORE!"

Prof. Depaul, giving an account to his class of the magnificent obstetrical clinic (constructed at the moderate cost of 12000 fr. per bed), and stating that an amphitheatre had been provided in which remarks might be made that it would not be proper to make at the bedside, observed that it reminded him of some words which, to his infinite regret, had once escaped him when examining a poor woman who to all appearance had succumbed to a uterine hæmorrhage. Turning to the persons who surrounded him he said: "This woman is dead." But to his great stupefaction the patient replied in a feeble voice, "*Pas encore!*" So little dead indeed was the poor woman, in spite of all appearances, that in three weeks she left the clinic perfectly well. This "*pas encore*" corresponds pretty well to what occurred to Récamier one day when he was called by a colleague to see a man the subject of typhoid fever. Récamier complained of having been called to the case too late, saying that the patient apparently could not survive the night. The latter on hearing him, emitted a certain noise from the lower passages, accompanying it with the words, "*Qui crepitat vivit!*" and in fact, not only did he not die of the typhoid fever, but is alive at the present time.—*Gaz. des Hopitaux.*

APPENDIX TO DR. GRISSOM'S PAPER.


Dr. Grissom informs us that in preparing the report of the De-jarnette case for publication he had only his notes and the Danville newspaper report of his testimony before him. Afterwards Col. Coleman sent his official report of the testimony. This report will be published in the appendix to the reprint, to be issued at an early day.

EDITORIAL.

NORTH CAROLINA MEDICAL JOURNAL.

A MONTHLY JOURNAL OF MEDICINE AND SURGERY, PUBLISHED
IN WILMINGTON, N. C.

THOMAS F. WOOD, M. D., Wilmington, N. C., Editor.

 *Original communications are solicited from all parts of the country, and especially from the medical profession of THE CAROLINAS. Articles requiring illustrations can be promptly supplied by previous arrangement with the Editor. Any subscriber can have a specimen number sent free of cost to a friend whose attention he desires to call to the JOURNAL, by sending the address to this office. Prompt remittances from subscribers are absolutely necessary to enable us to maintain our work with vigor and acceptability. All remittances must be made payable to THOMAS F. WOOD, M. D., P. O. Drawer 791, Wilmington, N. C.*

THE ASHEVILLE MEETING.

The Twenty-Eighth meeting of the Medical Society is over! The crowds of eager physicians who freighted the trains across the mountains, have returned to their daily cares.

The attendance at Asheville was very good, perhaps as large as the meeting at Wilmington last year, and certainly equal to any meeting in point of individual ability.

The features of this meeting which deserve especial mention, are the careful preparation made by the Chairmen of Sections, and the large number of physicians applying for license.

The work done by the sections was almost entirely the individual work of the chairmen, and with one exception this work was in the hands of young men. The reading of the reports indicated that these gentlemen had worked diligently on them for several months, and we believe that a careful perusal will further substantiate their merits.

It is very evident that the yearly progress of medicine can only

be summarized by work in sections, and as this plan is more thoroughly developed, members will see its advantages, and lend their aid to the Chairmen. This is the way the American Medical Association succeeds in getting work out of its members, and it can be made even more successful in our Society.

We will not attempt an outline of the papers read, as they will appear in the JOURNAL commencing with the July number.

The applicants for examination this year numbered forty-two. "Thirty-seven were found duly qualified." The standing of candidates this year, as compared with that of 1880, was not much improved, except that in the case of the graduates of one college which heretofore furnished the worst prepared men, this year showed a marked improvement.

It was very evident that more pains is being taken with students who intend practising in North Carolina, a result no doubt brought about by the demands of our State law in regard to licenses.

In a paper on Medical Education by Dr. Billings a few years ago, he remarked in effect, that as long as there was a demand for doctors of various grades, they would continue to be forthcoming. That the country doctor who settled in the small village, did not see the need of the high degree of education necessary to the city physician who practiced a specialty, and indeed, if he had attained to a higher grade of medical learning than usual, the tendency was towards the cities. It seems that the colleges understand all this, and upon this ground they establish various grades of proficiency. The minimum and the maximum are very far apart. In a given class, if A the minimum candidate deserves the degree of M. D., B, the maximum candidate should have some other distinguishing title. The distance between the man who barely passes, and the man who passes with distinguished merit is so great, as to leave a doubt in the mind of the Examiner if the minimum should not be advised to betake himself to his text-books again, and if the grade taken by the maximum candidate should not be indicated in some way that would distinguish him before the public. These reflections are here given, because we have noticed with gratification that the Board of Examiners is doing its work conscientiously. We believe it is the desire of this body to be fair to applicants in every respect, keeping constantly in mind the trust imposed by the State,

but also remembering that medical students in many instances seek the cheapest colleges without any knowledge of the fact that there is any difference in the standard of scholarship, and in fact not knowing until tried by the standard of the Board of Examiners, and found wanting, that their diploma was valueless.

In another important particular we noticed with pleasure that the Society was developing increasing interest—viz: in the work of the North Carolina Board of Health. During the session pointed and well-timed speeches were made by the Hon. T. L. Clingham, and Mr. Furman, editor of the *Asheville News*, showing that the initiation of the work was fairly begun in the western counties, and indicating also the public opinion in favor of the work, which is surely growing up under such leadership.

STAMPING OUT SMALL-POX.

Few commercial towns for a long-time escape visitations of small-pox, notwithstanding that it is the most preventable of all diseases, and small-pox once having made its appearance is seldom limited to the introduced case.

An example of complete success in limiting small-pox to the original case (or cases we should say) came under our observation recently. A vessel from New York loaded with guano, had a case of small-pox on board. The disease made its appearance at sea, in the person of a son of the captain. The young man was taken into the cabin, and nursed there by his brother who was a mate, and by the steward. Arriving at the Cape Fear quarantine station the vessel was made to set the signal for the quarantine officer, for the steward, who had acute rheumatism. In the meantime the case of small pox was convalescent, and the eruption on the face and hands was accounted for by the action of the guano fumes. The vessel was permitted to come to Wilmington, and the steward was admitted to the Marine Hospital with rheumatism.

The convalescent small-pox patient did not come under the observation of any medical man. For as the friends of the patient afterwards declared, that having passed the quarantine physician at

Smithville, they doubted if the case was not small-pox but chicken-pox, and consequently the young man attended church and enjoyed unrestricted intercourse.

About the tenth day after the admission of the steward for rheumatism, he was seized with fever and pain in the back, followed by eruption on the forehead. The Superintendent of Health was notified within an hour after the eruption was diagnosticated, and agreeing without hesitation that it was small-pox, preparation was made for the removal of the patient to the small-pox hospital, four miles below the city. The small-pox hospital referred to was an unfurnished coarse building, situated upon a sand hill on the banks of the Cape Fear.

In three hours from the conference about the patient he was on his way to the hospital, with an outfit of furniture, cooking utensils and food, accompanied by nurse and doctor.

In the ward where the disease made its appearance there were eleven other patients, of Scandinavian and German nationality, except one elderly negro. It is well-known that vaccination among the Germans and Norwegians is most thoroughly done, and so the vaccine cicatrices indicated in these cases. Nevertheless it was considered necessary to revaccinate all of them with *animal virus*, this being designated by the law of the State. All the vaccinations took with but one exception.

In the Seamen's Home, a building connected with the hospital by an entrance-way, there is a boarding house. Every one there was carefully vaccinated.

To provide against the risk of an outbreak resulting from the intercourse of the convalescent case of small-pox with his friends on shore, the Superintendent of Health vaccinated unsparingly.

The case at the Small-Pox Hospital resulted favorably. His bedding and clothes and those of his nurse were destroyed by fire, new clothes were furnished them, and the whole affair terminated without the occurrence of another case.

All credit is due to the Superintendent of Health for his prompt action, and to the city and county authorities for sustaining him in his efforts. It is the first time in our recollection that small-pox has ever been limited to the original cases, in this city, and we know it is a rare thing that it is done elsewhere.

MINUTES
—OF THE—
TWENTY-EIGHTH ANNUAL MEETING
—OF THE—
MEDICAL SOCIETY OF NORTH CAROLINA.

FIRST DAY—MORNING SESSION.

ASHEVILLE, N. C., May 31st, 1881.

The Society was called to order by the President

DR. RICHARD B. HAYWOOD

at 11 o'clock.

The meeting was opened with prayer by the Rev. Mr. Gammon.

Mr. Melvin E. Carter delivered the address of welcome.

The President, in the name of the Society returned thanks for the complimentary terms in which the invitation had been made. Nothing but natural barriers had prevented this meeting at Asheville at an earlier day and now that these barriers had been broken down he looked for a freer and fuller intercourse among the profession of the east and west.

The following Committees were appointed by the President :

COMMITTEE ON CREDENTIALS.

Drs. S. S. Satchwell, George G. Thomas and W. C. Murphy.

COMMITTEE ON FINANCE.

Drs. Henry W. Faison, W. C. McDuffie, A. W. Knox.

On motion of Dr. H. W. Faison, the Rev. Mr. Gammon was invited to a seat in the house during the sessions.

The roll was called and the following gentlemen responded to their names :

R. B. Haywood, Raleigh ; James A. McRae, Fayetteville ; S. S. Satchwell, Rocky Point ; H. W. Faison, Faison ; P. E. Hines, Raleigh ; M. Whitehead, Salisbury ; J. K. Hall, Greensborough ; Eugene Grissom, Raleigh ; R. L. Payne, Lexington ; Charles J. O'Hagan, Greenville ; J. F. Long, Newberne ; W. W. Gaither,

Charlotte; M. T. Savage, Scotland Neck; Thomas F. Wood, Wilmington; Geo. L. Kirby, Goldsborough; Walter Debnam, Earpsborough; G. G. Smith, Concord; D. N. Patterson, Mangum; J. B. Sugg, Tarborough; H. T. Bahnson, Salem; G. Gillet Thomas, Wilmington; Francis Duffy, Newberne; A. G. Carr, Durham; J. B. Gaither, Salisbury; Joshua W. Vick, Selma; Joseph Graham, Charlotte; J. L. Henderson, Mt. Pleasant; John Fink, Concord; Thomas J. Moore, Charlotte; T. D. Haigh, Fayetteville; L. J. Picôt, Littleton; W. C. Murphy, South Washington; W. H. Whitehead, Battleborough; R. H. Spight, Tarborough; W. C. McDuffie, Fayetteville; R. W. Gleason, Greensborough; John A. Pollock, Kinston; Nat. S. Henderson, Pelham; Geo. W. Long, Graham; Richard H. Lewis, Raleigh; J. D. Roberts, Goldsborough; E. Nelson Booker, Clayton; E. H. Hornaday, Willow Green; I. Wellington Faison, Fulton; A. W. Knox, Raleigh; Hubert Haywood, Raleigh; J. A. Sexton, Raleigh; S. B. Evans, Statesville; H. P. Burgin, Marion; Thomas E. Anderson, Statesville; Richard Dillard, Jr., Edenton; J. L. Nicholson, Richlands; C. M. Pool, Salisbury; P. W. Young, Oxford.—54.

Dr. Grissom introduced Dr. Renwick a delegate from the Medical Society of South Carolina. Dr. Renwick in a short speech expressed his gratification at being present on this occasion, to establish for the first time, fraternal relations between the Societies of the Carolinas and extended an invitation to members of the Society to be present at the next meeting of the Medical Society of South Carolina, to be held in Spartanburg. Dr. Renwick was invited to a seat in the hall, and to participate in transactions of the Society.

Dr. Grissom introduced the Hon. Thomas L. Clingman, and, on motion, this gentlemen was invited to a seat in the Society.

Gen. Clingman responded in his usual felicitous manner, pointed out the claims of the climate as a health resort, both on account of the favorable atmospheric conditions, and the beauty of the scenery, and welcomed the Society to his home. He was warmly applauded.

Dr. Bahnson, Secretary of the Board of Medical Examiners reported the following gentlemen as having been duly licensed on Monday, May 30: Drs. D. J. Cain, Percy T. Norcop, H. W. Lilly, S. H. Lyle, M. D. Phillips, S. P. Waldo, B. F. Whiteside, W. L. Crump, T. B. Robertson, R. S. Baynes, T. M. Jordan, R. J. Wilson, M. H. Fletcher.

Committee on Credential made the following partial report :*

Dr. J. A. Reagan, Weathersville, Buncombe county.

" J. G. Hardy, Asheville, Buncombe county.

" Geo. W. Fletcher, Shufordville, Henderson county.

" J. W. Anderson, Calahan, Davie county.

" D. J. Cain, Asheville.

" Thomas M. Jordan, Hillsborough, Orange county.

" Matthew D. Phillip, Dalton, Stokes county.

" J. M. Lyle, Franklin, Macon county.

" E. Crowell, Lincolnton, Lincoln county.

" J. F. Broyles, Asheville.

Respectfully submitted,

S. S. SATCHWELL, Chairman.

We find as accredited delegates from the Edgecombe Medical Society, Drs. J. P. Sugg, and R. H. Spaight.

The Committee on Finance having examined the books of the Treasurer find that he has carefully and fully performed his duties and respectfully beg leave to make the following report :

To amount on hand last year.....	\$300 75
To amount collected.....	294 00
Remitted by mail from members.....	46 50

Total.....	\$641 25
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By amounts paid for Transactions, Secretary, and Treasurer for postage.....	\$478 25
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Leaving balance in Treasury.....	\$163 00
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The Treasurer has a list of delinquent members whose names will be dropped unless their dues are paid at this session of the Society.

We recommend \$2.00 per capita tax for ensuing year.

HENRY W. FAISON,	} Committee.
W. C. McDUFFIE,	
A. W. KNOX.	

On motion of Dr. Wood, the reading of the reports of the Chairman of Sections be made special business of afternoon session.

On motion, the Society adjourned until 3 o'clock.

*NOTE BY THE SECRETARY.—The names of new members as subsequently reported by the Committee on Credentials, will be given in full at the close of the Minutes.

AFTERNOON SESSION—FIRST DAY.

Society met at 3 o'clock.

On motion of Dr. Satchwell the annual oration by James F. Loug, of Newberne, be delivered in the court house on Wednesday night at 8 o'clock, and an invitation be extended to the public.

Dr. Satchwell introduced the following resolution. Deferred until Wednesday for conjoint session :

Whereas, The great importance of sanitary improvement and reform in North Carolina cannot be too often urged upon the medical profession, and the public at large, as well as upon the Legislature of the State ; and,

Whereas, The good work already accomplished by the State Board of Health, with the meagre means at their command, is very encouraging to its friends to persevere in their labors, and to seek to educate the public mind to its importance, and to agitate the subject among the law-makers of the State ; therefore,

Resolved, That hereafter the members of this Society will stir themselves anew in this relation, and are urged with medical men all over the State to insist that our representatives from all the counties in the Legislature, shall make, in the interests of the State more liberal appropriations to the State Board of Health.

The report of the Chairman of the *Section on Surgery*, Dr. A. Holmes, of Clinton, was read, in the absence of the reporter, by Dr. Thomas F. Wood. The paper was referred to the Committee on Publication.

The report of the Section on the *Practice of Medicine* was presented by the Chairman, Dr. I. Wellington Faison, of Fulton. On motion of Dr. Whitehead it was referred to the Committee on Publication.

A conjoint session of the State Medical Society and the North Carolina Board of Health, was fixed for Thursday morning at 11½ o'clock.

The resolution of Dr. Satchwell in looking to aid from the Legislature for the State Board of Health was adopted.

Adjourned until 9 o'clock Wednesday morning.

 SECOND DAY—MORNING SESSION.

The Society was called to order at 9 o'clock.

On motion of Dr. Moore, of Charlotte, Dr. Gage, of Alabama,

was invited to a seat, and to take part in the deliberations of the meeting.

The reports of the Chairmen of the Sections were continued.

Dr. Hubert Haywood, of Raleigh, Chairman of the Section on *Microscopy and Pathology*, read his report on the recent progress in these departments.

On motion of Dr. McDuffie, of Fayetteville, the paper was referred to the Committee on Publication.

Dr. Walter C. Murphy, of South Washington, made his report as Chairman of the Section on *Materia Medica and Therapeutics*.

Dr. Whitehead moved the reference of this paper to the Committee on Publication. He complimented the young men, and believed that such papers should take a permanent place in the records of the Society.

Dr. O'Hagan in seconding Dr. Whitehead's motion, agreed with Dr. Whitehead. He thought that the young men of this day have an advantage over older practitioners in point of special professional training; this was not available in a time not long since passed. He denounced the tendency to renounce the old methods in therapeutics entirely, while at the same time he was an earnest advocate of the thorough investigation of new candidates for favor. Opinions as to the effect of new remedies should be given with reserve, more especially as we consider how long many of our best remedies have served a probation. He thought the reporter, Dr. Murphy, in criticising Dr. Austin Flint, had not duly appreciated the matter. Dr. Flint stood before the American medical men, as the great opponent of polypharmacy, and the leader in the reactionary school. There was a danger in misunderstanding the teachings of eminent leaders, if a comprehensive study of all their writings was not undertaken. The progress of new therapeutics was not dependent upon the denunciation of the old, and moreover to belittle the old therapeutics was to despise the ladder by which we have climbed to knowledge.

The paper was referred to the Committee on Publication.

CORRESPONDENCE.

Dr. Willis Alston, Chairman of the Section on *Obstetrics* was not present and asked through the Secretary, that his report be referred to the Committee on Publication. Adopted.

The resignation of Dr. Robert I. Hicks, on account of removal to another State, was received, and accepted, with appropriate resolutions.

The committee appointed by the Society to give expression to the feeling of the members in regard to the resignation of Dr. R. L. Hicks beg leave to report that it is with regret that the Society accepts the resignation of Dr. Hicks and that the Society extends to him the best wishes.

Respectfully,

W. C. McDUFFIE, Chairman.

A letter from Dr. John McDonald, regular Essayist for this year, was received, regretting his inability to attend, on account of his health. His essay was referred to the Committee on Publication.

A letter from Dr. Geo. A. Foote, of Warrenton, was received, regretting his detention at home by unavoidable circumstances.

A letter was received from Dr. J. G. Ramsay expressing regrets at his inability to attend this meeting and recommending the name of Dr. Anderson for membership.

A letter from Dr. Charles Duffy, Jr., of Newberne, was received, expressing regrets at his inability to be present.

Dr. Francis Duffy read a correspondence, &c.

Drs McDuffy, Haigh and M. Whitehead were appointed a committee to remedy error in the resolution in regard to insurance fees.

The following names were recommended by Dr. Bahnson, Secretary of the Board of Examiners, for membership, these gentlemen having received the license from the Board :

Drs. J. W. Moore, I. B. Weaver, A. D. Pair, R. L. Payne, Jr., H. W. Betts, W. L. Reagan, Frank Robinson, C. W. Hunt, W. D. Hilliard, C. Winston, C. K. Gardner, J. C. McKenzie, T. F. Meisenheimer, J. M. McCorkle, W. C. Brownson, T. A. Crowell.

Dr. Glenn arose to a personal explanation, defending himself against a charge of irregular practice in a matter of advertising.

Dr. O'Hagan said that the discussion of this matter could not properly come before this meeting, as it had been referred back to the Guilford County Medical Association, and until the report had been received from that body no action could be taken.

The Chair decided that Dr. O'Hagan had indicated the proper course.

Dr. Knox said that after the matter had been investigated thor-

oughly by the auxiliary society, it was then proper for the result of this examination to be laid before the Board of Censors, in order that Dr. Glenn should have every opportunity for vindication.

Dr. O'Hagan thought if it had been thoroughly investigated by the Guilford County Medical Association it might be properly brought before the Board of Censors.

The Chair suggested the propriety of increasing the Nominating Committee. Dr. McDuffy moved that the number be changed from *five* to *seven*. Dr. Wood, of Wilmington, pointed out that this would be unconstitutional, and the motion was withdrawn.

The Chair announced the following committees :

COMMITTEE ON NOMINATIONS.

Drs. M. Whitehead, T. D. Haigh, E. Grissom, C. J. O'Hagan, and E. Hornaday.

COMMITTEE ON OBITUARIES.

Drs. Dillard, S. S. Satchwell, and G. G. Thomas.

The following appointments of Chairmen of Sections was announced by the President :

Surgery—Dr. J. A. Sexton, Raleigh.

Obstetrics—Dr. A. W. Knox, Raleigh.

Practice of Medicine—Dr. Richard Dillard, Jr., Edenton.

Microscopy and Pathology—Dr. H. W. Lilly, Fayetteville.

Therapeutics and Materia Medica—Dr. G. G. Thomas, Wilmington.

CONJOINT SESSION OF THE MEDICAL SOCIETY AND NORTH CAROLINA BOARD OF HEALTH.

The hour having arrived for conjoint session the objects of the conference were stated by the President. The resolution introduced by Dr. Satchwell on Tuesday was carried. He then spoke in regard to the straightened finances of the Board and of the duty of members of the Society in sustaining the work already begun.

Gen. Clingman being called upon addressed the meeting upon the great importance of the work in educating the people how to live, to increase their comforts, and prolong their lives. He dwelt particularly upon the ill-cooked food so commonly seen on the tables of the people of all classes, and of the gross ignorance upon

the simplest matters of the culinary art. The Legislature ought to spend its money freely in aid of the dissemination of knowledge among the people.

Dr. M. Whitehead and Dr. R. L. Payne were elected to serve for six years on the Board.

Dr. Wood, Secretary of the Board, read the following report :

The Medical Society of North Carolina stands committed to the moral support of its auxiliary bodies. The Board of Medical Examiners has passed safely through nearly a quarter of a century of trial, until the whole community of North Carolinians, satisfied with its wisdom and usefulness are yearly becoming more earnest supporters of it. Indeed, a moral atmosphere surrounds the wise law creating it, which to-day is a stronger guarantee of its execution, than all the penalties a legislature could enact. These results have followed the wise policy of our Society in respect to the Board of Examiners, because this policy has been adhered to with unswerving loyalty. Individual members have been solicitous about its success. Elder practitioners have influenced their students to a proper respect for the law, inculcating the true doctrine that the license of the Board of Examiners to North Carolina physicians, was the only title by which they could expect to enter the profession on terms of equality.

But how does the matter stand in regard to that younger auxiliary, the North Carolina Board of Health. I fear the members of this Society have not so earnestly studied the relations of this important body. That they have not caught the impulse which has been so widely distributed all over our land, in matters appertaining to preventive medicine. But we stand committed to the policy of the Board of Health, and this obligation rests upon us not alone during these few days of our yearly intercourse, but during the entire year. We do not rid ourselves of it by passing complimentary resolutions to the work of that Board. We do not shift the responsibility by merely endorsing what has been done. In every county in the State, save one, there is a well founded complaint that the County Superintendents of Health are not properly supported. In my intercourse and correspondence with the Superintendents of Health, I have discovered that gross neglect is all but universal in many counties, and this too among members of this Society. My infer-

ence is that the scope and aims of the work of the Board are not understood. It is upon this supposition that I will undertake to lay before you the outline of the great work for which you as much as the Board of Health, are responsible.

The work begun by the Board of Health, more correctly comes under the head of State Medicine as defined by Dr. S. E. Chaillé, than in many other states ; because our system is destined to keep accurate observations of the condition of our civilization as a State ; in the inspection of charitable and penal institutions, in the aid given to the officers of justice, in the medico-legal post-mortem examination of bodies, in the instructions given to individuals and communities as to the water they drink, the medicines they take, the food substance they consume, the ventilation of their homes, the vaccination of the dangerous classes, the isolation of diseases ; in the hygienic supervision of public buildings.

The definition which Dr. Chaillé has so tersely given of State Medicine, viz. : that it “ *is the application by the state of medical knowledge to the common weal ; and embraces every subject for the comprehension of medical knowledge, and for the execution of which State authority, are indispensable.* ”

Nothing less than what we have here undertaken would entitle us to the position we are anxious to attain.

We hold as the basis for our action, that the State is responsible for the well being and prosperity of her citizens, because it is profitable, and because it is humane. The law under which we act, declares that the Board of Health shall take cognizance of the health interests of the State ; shall make sanitary investigations and enquiries in respect to the people ; shall investigate the causes of diseases dangerous to the public health, especially of epidemics ; shall examine into the sources of mortality ; shall study the effects of locations, and employments upon the public health ; shall collect items under all these heads for distribution among the people, with the especial purpose of informing them about preventable diseases ; that this Board shall be the medical advisers of this State, advising the government as to the sanitary construction and management of all public institutions, and shall direct the attention of the State to such sanitary matters as in the judgment of the Board affect the industry, prosperity, health and lives of the citizens of

the State. And having made this solemn declaration as to what she requires the Board of Health to do, disregards her share of the responsibility utterly, by making no appropriation of money to accomplish her behests.

In order to "take cognizance of the health interests of the citizens of the State," it is necessary to have sufficient knowledge of the requirements in the case. The physician can only administer a remedy with promise of success, after he has determined the nature of the disease. The sanitarian must know the sanitary condition of a given place in order to remedy the defect. An accurate knowledge of the sanitary condition of a community can only be arrived at by patient observation during a length of time; and this observation to be of actual service must be done by persons interested in the work, and receiving pay therefor.

The most important of all the methods to be employed is the registration of death with their causes; and next to this is importance, is the registration of prevailing diseases. Dr. Elisha Harris, the eminent sanitarian, and Secretary of the New York Board of Health says on this point.**

"The science and art of healthful living being so intimately associated with faithful study and conclusions concerning causes of mortality and concerning the control and prevention of the avoidable causes which produce premature death, the argument for the accurate and complete knowledge and records of the causes and essential circumstances of mortality in a community and throughout the country may be deemed sufficiently strong to warrant States and cities in the adoption of very exacting laws and regulations for recording the causes of death, and making a faithful registration of every individual who dies. The individual records, however, become publicly valuable just in proportion to their numbers and their complete accuracy and compatibility." Then quoting Professor Reneke, of Germany, he adds: "Mortality statistics are the basis of public as well as private cure of health. Every step forward in this direction is a gain to human working power and human welfare. There can be no higher object for human society than to obtain this gain."

Dr. Billings in his Presidential Address to the American Public

*Transactions American Public Health Association, 1877-78.

Health Association in New Orleans (Dec., 1880) says on the subject of health organizations:

"The first thing to be done is to provide for a registration of deaths, which can be secured by a law or ordinance to the effect that in every case the head of the family, or the householder shall make a return of the death and obtain a permit for burial or removal of the body, and that failure to do this shall be taken as evidence of suspicious circumstances connected with it sufficient to warrant the action of the coroner.

"The second thing to be done is to take account of stock by making a sanitary survey of the place, and putting on record the condition of each set of premises. The health officer of a place should have in his possession a brief description, from a sanitary point of view, of every premises in a city, and a person proposing to buy or rent a dwelling house ought to be able, on the payment of a proper fee, to obtain a certified copy of the sanitary history of the house he proposes to occupy, its connection with sewers, the number and causes of the deaths that have occurred in it, or in the square in which it is situated, etc., just as much as he is able to obtain a record of title. With a careful sanitary survey as a basis, it would not be difficult to keep up this record.

The work indicated in the foregoing paragraphs have been outlined by this Board of Health, and to the extent of our ability the machinery has been set in motion, because the Board recognized that this line of enquiry is the base line of all our future sanitary operations.

For more than a year the Secretary of the Board has been attempting to get pioneer work done in this direction, and the meagre tables shown in our Biennial Report will give an idea of how far we have been able to go. That we have gone no farther is not the fault of County Superintendents of Health, but the lack of support from individual physicians.

The difficulties in the way of proper performance of the registrars of vital statistics, is in the medical profession primarily. I have reason to believe, however, that all this seeming apathy is because the aims and objects of our Board are not correctly understood.

After the collection of vital statistics, as regards importance,

comes the record of sanitation of localities. In one of the blanks prepared by the Board, the county superintendents have a good many items to collect, and for his information he must depend largely upon the physicians in various parts of his county. In the monthly reports, received from the various Superintendents, many contain the remarks that the physicians of the county do not sustain them. I give the medical profession credit for more intelligence than to attribute their failure to recognize the value of their individual assistance in this work, to a lack of information as to the present status of sanitary progress in the United States.

The State Board makes the following suggestions as to the working of the County Boards. Meetings should be held once a month in the more thickly settled counties, and at least quarterly in the others. The Superintendent of Health should have collected before the time of meeting many matters of interest, upon which he would desire the advice of the other members.

In every county in the State, even the most healthy of all, there would be need enough to criticize its sanitary condition. If the sanitary inspector does his duty, he will not only point out how remedies may be devised to correct abuses, but he would also find it an effort where everything is as he would have it, to keep up this standard. The good housekeeper never considers her work of cleaning and purifying and mending at an end, but looks forward to the perpetually recurring duties, which to allow to accumulate, gives double work, and stigmatizes her domestic reputation. The conscientious sanitarian, too, must keep his schedule of duties constantly before his mind, and work systematically. He must lead in all matters appertaining to his office. He must strive to excite constant interest in his work. If he does not estimate his obligation at its full value, he may be sure that the members of the Board will not assist him zealously.

I think the machinery at present devised by the law, to be good. It has been considered by a eminent sanitarian as the best in the country. If the Medical Society in North Carolina was in earnest thirty years ago when it made such strenuous efforts towards a law for vital statistics, if this Society valued the reports on the topography and diseases of the counties, as its yearly appointments to these tasks indicated, then it cannot fail to recognize and endorse

this systematic plan, which has the authority of law. Some may think that I value the scheme of work marked out by the law too highly. I am sure I do not. I know its defects, and have personally felt their weight for four years. I am only urging the gentlemen of this Society to think and examine for themselves. We must do our best with small beginnings. Then we must carefully study our needs, and from honest convictions growing out of this examination, we must strive to have amendments made by the Legislature. This Society, and this Board, can get amendments made to this law, that will make it operative and reflect great credit upon us, if we will try in the right way. I think it could be accomplished by appointing a committee from every county represented in this body, to canvass among the County Commissioners, to inform the members of the Legislature from their county as to our objects and aims. The State Board will furnish all the printed matter needed, and aid by its advice. If earnest committeemen are appointed, men who will inform themselves first as to what they have to perform, they can carry conviction to the public which will result advantageously to our cause.

On motion of Dr. J. M. Lyle, the Secretary's report was adopted and referred to the Committee on Publication.

REPORT BY THE SECRETARY OF THE NEW ORGANIZATION OF THE NORTH CAROLINA BOARD OF HEALTH.

To the Medical Society of the State of North Carolina :

I have the honor to report the following organization of the North Carolina Board of Health for the ensuing two years :

Dr. M. Whitehead, President, Salisbury, } Six years from date.
" R. L. Payne, Lexington, }

Dr. S. S. Satchwell, Pender County, } Four years from date.
" Thomas F. Wood, Sec'y, Wilmington, }

Dr. Charles J. O'Hagan, Greenville, } Two years from date.
" George A. Foote, Warrenton, }

APPOINTEES ON THE PART OF THE GOVERNOR.

Dr. J. M. Lyle, }
Prof. William Cain, C. E., } Two years from date.
" Simmons, }

Society adjourned to meet at 3 o'clock. Afternoon.

AFTERNOON SESSION—SECOND DAY.

The Society called to order promptly at 3 o'clock, by the President, Dr. Haywood.

Dr. Satchwell called attention to the fact that the Pharmaceutical Association had succeeded in getting a State law enacted by the last General Assembly regulating the practice of pharmacy and the sale of drugs, and that this had virtually consummated the resolution introduced by the Edgecombe County Medical Association at our last meeting.

Dr. T. W. Harris, of Chapel Hill, sent a report of two cases of "Inflammation of the Ear," which was read by the Secretary, Dr. Picôt. Paper was referred to Committee on Publication.

Dr. Debnam introduced the following :

WHEREAS, The Medical Society of the State of North Carolina has learned with regret that Dr. S. S. Satchwell has for satisfactory reasons declined a nomination as President of the Board of Health; therefore,

Resolved, That this Society tender a vote of thanks to Dr. Satchwell for the valuable services he has rendered the State in the cause of sanitary improvement during his official career, and that we regret his business affairs are such as necessitate this step he has taken.

Dr. W. C. McDuffie, of Fayetteville, read a paper on "Nest of Uraie of Ammonia Calculi Discharged from the Kidney," exhibiting the specimen.

This patient, a female, unmarried, æt. 30 years, had suffered uneasiness in region of left kidney for two years and a half (otherwise healthy) when an inflammation of the skin was discovered over the seat of pain, continuing for months, when an abscess opened, discharging a small quantity of pus from this time on for more than two years. A discharge of thin pus kept up. No foreign substance could be discovered by the probe. When this nest of calculi was brought to the edge of the opening I removed it entire as you see it. The discharge ceased in a week after its removal, June 20, 1880, and all inflammation subsided with no signs of trouble in any way since, which is now nearly one year.

My own theory is, that this, at first, was probably a mass of coagulated matter, poured out into the uriniferous tubes and then solidified (and as it many times happens, these, while in separate particles, are washed down into the bladder) but in this case these par-

ticles cohered and became too bulky for passage through the ureters, then as a foreign irritant, by the process of suppuration, it seeks an outlet through the tissues.

While I have not made any chemical examination of this peculiar formation, I incline to the opinion that it consists chiefly of urate of ammonia.

Dr. J. K. Hall, of Greensborough, reported a case of "Knot in the Umbilical Cord" about six inches from the belly. The child when delivered was partially decomposed.

Dr. P. W. Young, of Oxford, reported a case of "Salivary Calculus" occurring in a rheumatic patient.

Dr. Francis Duffy, of Newberne, reported a case of "Tumor of the Elbow."

Eli Mosselli, white, æt. about 45 years, applied for treatment about Nov. 1st, 1880. He had been a sailor but for the last few years has been a farmer. His general health was good, he having no cause of complaint except a tumor on the anterior aspect of the right forearm just below the bend of the elbow. The tumor was about five inches in extent in a longitudinal direction and a little less than that across. It had very much the appearance of a fatty tumor and I believed it to be of that nature. My brother, Dr. C. Duffy, concurred in the diagnosis. The patient had been to several towns and asked the opinions of different physicians—one of whom tapped it, and like the rest, pronounced it a fatty tumor. The patient desired me to remove the tumor and a day was set for the operation. Dr. Kirby, of Goldsborough, happened to be in Newberne, and having accepted our invitation to be present, rendered us valuable assistance in what proved to be a more difficult case than we anticipated.

As soon as the mass was cut into, blood gushed freely, some of it spirting several feet. All of the physicians who were present were then of the opinion that it was an aneurism. While the assistants controlled the blood as best they could, I hastened to tie the brachial artery, which being done, there was considerable bleeding when the incision was allowed to gape open.

We then brought the edges of the wound together with adhesive strips and applied a firm bandage, after several days the parts began to show signs of sloughing. The bandage and strips were then

removed and the central mass freely syringed with hot water through a Davidson syringe until it was as clean as we could make it, after which strong nitric acid was applied and afterwards soaked up by pieces of soft cloth. Then the cavity and fast forming sinuses were packed with lint or oakum and the whole kept moist with a solution of carbolic acid in water and glycerine. With some variation this plan was carried on for several weeks, the nitric acid only being applied as seemed necessary. The whole limb became badly inflamed and swollen from the hand to near the shoulder. We called in consultation, Dr. Jas. B. Hughes, who kindly assisted us with the case. The mass having been completely removed, the edges of the cavity were brought together by straps and bandages, and about the first of February, 1881, the healing was almost complete; the patient returned to his home near Beaufort, and for a few weeks continued to be well.

Early in April a swelling made its appearance just above the elbow joint and grew rapidly. Soon it broke through the skin and a fungous mass protruded which bled freely until stopped by the application of persulphate of iron and a bandage.

Patient came again to Newberne, his general health being very much improved since his departure. There was no enlargement of any of the lymphatic glands, no pain of consequence, no binding down and retraction of the skin, no apparent wide infiltration of the growth in the surrounding tissues. The first growth pushed the muscles aside and laid between them. The fungous protruded more and more, and bled freely except when under the pressure of a bandage and styptic. We decided to amputate the arm which was done at beginning of the upper third, on the 20th of April. Patient made a good recovery and so far is doing well with no return of growth. The elastic bandage applied before amputation did not press all the blood from the tumor, there were some cavities containing blood-clots; but the fungus was bloodless and almost identical in appearance with the gray matter of the brain. We believe it to be malignant though lacking in some of the characteristic of malignancy. After the removal of the arm I picked up the brachial artery just below the point of the old ligation and injected it with hot tallow colored red, after which I dissected the limb and ascertained that there was no connection between the brachial artery or

its branches, and the new or old growth. The tallow went into the palmar arches and arteries of the fingers, and the arterial branches were distinctly traced out. They did not have any direct connection with either of the tumors. When the cavities of the first tumor was cut into, the blood spurted partly on account of the pressure of the distended tissue. The neoplasm we took to be fibrin. It had every mark of that appearance as it was sloughing out from the action of the nitric acid, nor did the acid cause pain except as it would touch the sound tissues. The first growth commenced about five years ago, soon after a fall which injured the arm.

The above case is reported mainly as a remarkable instance of mistakes in diagnosis.

Dr. G. W. Long, of Graham, reported a case of "Traumatic Tetanus" resulting from hand being crushed in a threshing machine. Hypodermic injections of morphia and chloroform inhalations; but the man died despite the best efforts.

The same reporter related an interesting case of *peritoneal fistula*, succeeded by fistula in ano, which yielded to treatment.

Also, by the same reporter, a *hydrocele* treated with iodine injections.

Dr. A. G. Carr, of Durham, reported cases of "Quinine Idiosyncrasy." Also a case of impaction in the ileocaecal valve. Also a case of empyem, in which he relieved the patient by drawing from the pleural cavity 44 ounces of pus. Recovery. Also a case of *strangulated femoral hernia* relieved by herniotomy. Recovery.

Dr. I. Wellington Faison, of Fulton, reported a case of "Erysipelatous Meningitis" resulting fatally.

The following amendment to the Constitution was proposed by Dr. Satchwell, and goes over under rules to next annual meeting:

Resolved, That Section 2, Art. IV of the Constitution be so amended that the word "five" shall be stricken out, and the word "nine" be substituted in place thereof.

Society adjourned to meet in Court House 8½ o'clock to hear the annual oration by Dr. James F. Long.

The Speaker was introduced by Vice-President, Jas. A. McRae, M. D., as follows:

Ladies and Gentlemen:

The pleasant duty devolves on me this evening to introduce to you Dr. Long of Newberne, an orator of high reputation and I assure you we will be well compensated by giving our attention.

Subject: "Medicine both a Science and Art."

THIRD DAY—MORNING SESSION.

Society called to order at 10 o'clock.

Dr. Sterling Kennedy, of New Orleans, being present, was invited to a seat upon the floor.

Dr. M. Whitehead, Chairman of Committee on Nomination read the following report :

For President :

Dr. Thomas F. Wood, Wilmington.

Vice-Presidents :

Dr. Thomas J. Moore, Charlotte.

“ D. J. Cain, Asheville.

“ S. B. Evans, Statesville.

“ John McDonald, Washington.

Treasurer :

Dr. A. G. Carr, Durham.

Secretary :

Dr. L. Julien Picôt, Littleton.

Orator :

Dr. A. W. Knox, Raleigh.

DELEGATES TO AMERICAN MEDICAL ASSOCIATION.

Dr. Eugene Grissom, Raleigh.

“ F. M. Rountree, Snow Hill.

“ J. J. Summerell, Salisbury.

“ C. Duffy, Newberrie.

“ N. J. Pittman, Tarborough.

“ Jos. McNeill, Fayetteville.

“ E. F. Ashe, Wadesborough.

“ W. H. Whitehead, Battleborough.

“ Gedding Hardy, Asheville.

“ W. H. H. Cobb, Goldsborough.

“ J. A. Sexton, Raleigh.

DELEGATES TO VIRGINIA MEDICAL SOCIETY.

Dr. R. L. Payne, Lexington.

“ Duncan N. Patterson, Richmond County.

“ Nat. S. Henderson, Pelham.

Dr. Geo. A. Foote, Warrenton.

“ J. H. Tucker, Henderson.

“ Jos. P. Bryan, Kinston.

DELEGATE TO PUBLIC HEALTH ASSOCIATION.

Dr. Jas. McKee, Raleigh.

COMMITTEE TO APPOINT ESSAYIST

Dr. Jas. K. Hall, Greensborough.

“ H. T. Bahnson, Salem.

“ H. W. Faison, Faison's Depot.

COMMITTEE ON OBITUARIES.

Dr. G. Gillett Thomas, Wilmington.

“ W. W. Lane, Wilmington.

“ J. C. Walker, Wilmington.

DELEGATE TO SOUTH CAROLINA MEDICAL SOCIETY.

Dr. W. L. Hillard, Asheville.

“ H. T. Trantham, Salisbury.

“ Joseph Graham, Charlotte.

PUBLISHING COMMITTEE

Dr. Thomas F. Wood, Wilmington.

“ L. Julien Picôt, Littleton,

“ Wm. G. Thomas, Wilmington.

“ C. J. O'Hagan, Greenville.

BOARD OF CENSORS.

Dr. Charles J. O'Hagan, Greenville.

“ N. J. Pittman, Tarborough.

“ J. J. Summerell, Salisbury.

The nominations were adopted.

Committee to select Essayist offered the following :

The undersigned, a committee to appoint an Essayist for our next meeting, respectfully recommend Dr. W. R. Beall, of Greensborough for the position.

HENRY W. FAISON, } Committee.
HENRY T. BAHNSON, }

The place of meeting for next year was then considered. Durham, Raleigh, Salisbury, Concord and other places were put in

nomination. The selection was decided in favor of Concord, by a large majority.

Mr. Robt't M. Furman, editor of the *Asheville News*, spoke of the necessity of pushing forward the work of the Board of Health. It was evident that more money must be forthcoming to carry out the plan so well begun. He did not think that a direct appeal to the Legislature would be so effectual, as reaching them through the people by education on the topics of sanitary improvement. He offered the columns of his paper in behalf of the work.

Dr. M. T. Savage, of Scotland Neck, (a member of the House of Representatives) agreed with the last speaker, and said it was impracticable to apply directly to the Legislature just now; but every effort should be made to reach the Legislature through the voters. He complimented Dr. Wood's efforts to carry on the work, and knew that he had been put to much individual expense. He moved that the Society reimburse him.

Dr. H. W. Faison said: He hoped this motion would be withdrawn. He did not see Dr. Wood in the house just now, he knew he would not accept. Moreover, he was satisfied that if we attempted to pay the expenses of the Board in this instance, the State would be willing to let us continue its support.

Dr. M. Whitehead was not in favor of the motion. He thought the best thing the Society could do in this direction, would be to subscribe to the *NORTH CAROLINA MEDICAL JOURNAL*, and thus aid the cause.

Motion was withdrawn.

Dr. J. A. Sexton, of Raleigh, read a paper on a case of "Acute Aneurism of the Orbit" which had been under his care. The treatment consisting in ligating the common carotid artery.

Dr. A. W. Knox said: There were two points worthy of discussion in this case. First, whether it was to operate early before collateral circulation is established by pressure on the carotid. The patient's life was the first consideration. The records of the operation showed 8 deaths out of 23 operations. According to this, he thought it best to produce pressure and get collateral circulation, and then ligate. Cerebral anæmia is nearly always the cause of death after primary ligation. This could be prevented by first establishing collateral circulation by pressure on the common carotid.

Dr. Knox said there had been another operation of the kind in the State.

Dr. Hubert Haywood said that ligature of the common carotid was done by Dr. Kennedy, of Orange county, for wound of the artery. This operation was very successful. Ashhurst reports 29 cases collected by Noyes, showing 25 cures and but one death. Erichsen gives 21 cases of intra-orbital aneurism treated by ligation, of which 15 were successful, 3 died, and 2 partially successful. Holmes reports 33 cases, of which only five died, the cure was complete in 22 cases, partial in five cases, and one failure.

Dr. Bahnson reported, at the request of Dr. Percy T. Norcop, a case of excision of the inferior maxillary bone, for what he would designate as an osteo-sarcoma. Drs. Graham, Bahnson and others were invited to the operation.

Dr. Bahnson spoke of the steps of the operation. Preparatory to extirpation tracheotomy was performed to guard against the accident of suffocation by hæmorrhage. A stout silk ligature was passed through the tongue, in order to draw it well forward. Chloroform was administered. The line of incision was from 1 to 1½ inches from the symphysis, exposing the whole tumor. The bone was divided on one side just in front of the condyle on one side, on the other side division was in front of the angle, leaving one molar tooth. The patient after the operation was very faint, having lost from 16 to 20 ounces of blood. The tumor weighs within a fraction of 3 lbs., and had been growing 7 years.

The necessity for the operation was the rapidly increasing size of the tumor threatening suffocation during sleep. The extirpated jaw was exhibited to the members.

The patient failed during the day, and at night about 10 ounces of defibrinated human blood were transfused.

Dr. W. W. Gaiher introduced the following resolution which was carried :

Resolved, That the President of the Medical Society of North Carolina after conference with the Secretary of the Board of Health, appoint in every county of the State, a physician, preferably a member of the State Society, to canvass his county in the interests of the sanitary and statistical work undertaken by the Board of Health. But in those counties where there is no member of the Medical Society residing, efforts shall be made by the President of the Medical So-

ciety and of the State Board of Health, to secure the coöperation of some respectable physician living in such counties.

REPORT OF COMMITTEE ON OBITUARIES.

Dr. Richard Dillard, Jr., from Committee on Obituaries, read an obituary notice of Dr. William A. B. Norcom :

Dr. William A. B. Norcom the youngest son of Dr. James Norcom a prominent physician of Edenton, was born May 24th, 1836. His early education was conducted at home by his father, subsequently attending the Edenton Academy; he did not, however, receive a collegiate education. At an early age he graduated in medicine at the University of Pennsylvania in 1857. He filled during his life, several positions of honor and always with great credit to himself. During the late war he was Assistant Surgeon in the C. S. Hospital at Petersburg, Va. In 1877 he was President of the North Carolina Medical Society, at which time he delivered address on "Malarial Hæmorrhagic Fever," a valuable addition to the literature of that disease. At the meeting of the Society in Warrenton, May, 1868, he read a comprehensive paper on the "Modern Treatment of Acute Internal Inflammations." At one time he was a member of the Board of Medical Examiners of North Carolina.

In 1879 he delivered an address before the Alumni Association of the University of Pennsylvania on the "Three Years Course of Medical Study" which had just before that time been adopted by that institution. He died in St. Vincent's Hospital, Baltimore, Monday night, February 28th, 1881

Dr. Norcom was an intelligent physician, a polished scholar, and was endowed with a power of memory seldom surpassed. With truth might we say : "Indeed hath a giant fallen."

Respectfully submitted,

RICHARD DILLARD, JR.

Dr. Walter C. Murphy said he could not let the opportunity pass by without speaking a few words as the great talents of his deceased colleague. He knew how deeply this Society was indebted to him for the years of unremitting work he gave to its maintainance and elevation. He was essentially a physician of progress. He entered the profession with unusual advantages, his education having been directed by his father, who too was a scholarly physician, and who imparted to his son that enthusiasm for advancement which seemed

ever to be a fresh impulse with him. His wonderful brain was a store house of medical books, and page after page of his favorite authors he could repeat from memory. He lived always in the atmosphere of medical events, and if he had one fault which was conspicuous as a student, it was that of admiring with undue emphasis the newest and most brilliant efforts of his favorites. But for all this his diligence in study was not limited to the branches he most delighted in ; the whole universe of medical literature was faithfully culled.

As a contributor to the literature of this Society, as a debater in the questions involving modern innovations, as a member of the Board of Medical Examiners, and as President of this Society, he exhibited profound learning, facility of expression, accuracy and readiness, and he gave his earnest support to the best standards of excellence in all matters appertaining to our welfare. May his memories always remain fresh !

Dr. G. G. Thomas from the obituary committee reported the following memorial to the late Dr. M. J. DeRosset :

It is but a poor expression of the sadness that a death in our circle brings with it to set forth in studied phrase the well-known virtues and estimable qualities of heart and mind which have endeared to us the departed. Indeed, deep sorrow finds no utterance in words ; but the name and remembrance of Moses John DeRosset will always be fruitful of pleasant thoughts of his life as friend, teacher, medical associate and adviser, profitable for reflection, worthy to incite us to energetic and conscientious work in the profession he sought to advance and elevate.

His naturally acute and searching mind found in persistent and well directed application a pleasant field in its endeavors to achieve the success, his ambition and ability promised him. His career as physician and teacher is well-known to us all, and in his selected branch of surgery, his rapid advancement to a prominent place among the leading operators and thinkers of his day, attested the great worth of the man. To the details of his work, he brought the same unceasing care that marked the grasp of his broad intellect in securing the mastery or setting forth the explanation of the abstruse subjects which came under his observation. For his intellect was of the class that unwillingly accepted theories or facts upon

the mere dictum of a teacher, however high the authority might be. Strong in his own opinions and well prepared to defend them against all comers, his self-sufficiency often became aggressive in its assertion of independence. Yet no man had a truer friend than he was. Honest and brave, he opposed the wrong, and as far as in him lay, preserved and upheld the right. A lover of the true, the beautiful and the good, his life was filled with good works and kindly deeds, and his death has left us these memories worthy to be cherished.

He was gathered to his fathers, in the prime of his life after days and days of patient suffering, "having the testimony of a good conscience; the communion of the catholic Church; in the confidence of a certain faith; in the comfort of a reasonable religious and holy hope; in favor with God; and in perfect charity with the world."

Let us trust then, that when the mind of the good physician, which has pondered so often and so long over the great questions of life and death, the solution of which held out the promise of so much happiness, was awakened to the consciousness of enduring realities and the enjoyment of immortal existence, the memory of the mighty struggle here still remained to enhance, if possible, the fruition of beatitude.

Resolved, That this testimonial of our esteem for him living, and sorrow for his death, be enrolled in the minutes of this Society.

Beside these there are the following names which have passed over the waste field of death and are reaping the reward of their labors.

Dr. W. A. Collett, Morganton.

" Franklin Hart, Tarborough.

" Joshua Taylor, Williamston.

" Henry W. Lee, Raleigh.

" J. T. Winton, Youngsville.

" C. S. Battle, Rocky Mount.

To this roll of death we find the men whose years were crowded full of useful work, and the younger laborer seeking to attain to the places of trust and esteem in this profession, and in the hearts and homes of the people.

Resolved, That this Society tenders its sympathy to the friends of the bereaved.

Dr. W. C. Murphy read for Dr. R. F. Lewis, Superintendent of Health of Robeson county, a paper on "Diseases Dangerous to the Public Health Occuring in One Household." Referred to Publishing Committee.

MARTIN'S RUBBER BANDAGE.

Dr. O'Hagan wished to call the attention of the Society to the Martin's pure-rubber bandage in the treatment of varicose veins, varicose ulcer, and chronic eczema of the leg. The bandage here shown is $2\frac{1}{2}$ inches wide and 12 feet long. The patient can be easily taught the art of applying it himself, so that he can easily exceed the skill of the physician.

In chronic ulcers, even of the syphilitic variety, if the margins be scarified, and the ulcer packed with dry dirt, or absorbent cotton, and iodide of potassium given internally, improvement begins very soon, and you can promise your patient good results.

He related a case of a lady who had an ulcer which was diagnosed as erysipelas. She suffered great pain, so that she had to take very large doses of morphia. The pain was relieved by the application of the bandage, and she was cured in three weeks. It did not make any difference how little power the patient had over the leg, he rapidly regains its use by the rubber bandage, and is enabled to walk about with comfort. The main thing was the correct application of the bandage.

As compared with elastic stockings the rubber bandage was very superior, being more durable and very much cheaper.

Dr. Wood said he had had a somewhat extended experience in the use of Martin's bandage, in the U. S. Marine Hospital. In that service economy was essential. The policy was to restore a patient to duty in the shortest time. Sailors were very liable to sore legs, because of their frequent scorbutic and syphilitic taint. These chronic ulcers had always been troublesome and expensive. It was formerly necessary to isolate men with stinking ulcers, and then as a last resource, amputate the limb. Very many of these cases were formerly discharged "unimproved" or incurable. The rubber bandage in his hands had greatly lessened the expenses of such cases. He adopted the plan of thoroughly cleansing the ulcer, and then washing it with a lotion of zinc chloride, 10 grs. to $\frac{3}{4}$ i. The cavity of the ulcer was filled up to a level with borated cotton, or

tow, the bandage applied snugly and the patient put to bed for that day. At night the bandage was taken off, the side next to the skin, washed off with soap, and after drying, rolled up and put under the pillow. The next day before the patient had put his foot to the floor the ulcer was carefully washed, dressed with cotton as on the day before, the bandage applied rather loosely, and then he was ready to walk about the wards. With this simple treatment the foulest ulcers did well. It was sometimes necessary to employ skin-grafting, and under the gentle pressure of the bandage they did well. He regarded the practical application of this well-known and ancient principle in surgery to our wants, among a class of patients heretofore avoided because of the dubious prognosis, as a triumph of our modern art.

Dr. Grissom introduced Senator Davidson, of Buncombe, to the Society, who, on his motion took his seat in the hall. Dr. Grissom remarked that Senator Davidson had been in favor of every legislative act bearing upon the prosperity of this Society and its auxiliaries. Mr. Davidson replied in an appropriate speech.

Dr. Hornaday read a report of a case of *Ainhum* occurring in his practice, and exhibited the specimen. Referred to the Committee on Publication.

Dr. M. Whitehead moved that the thanks of the Society be tendered Dr. Long for the able and ornate address delivered by him and that a copy be requested for publication.

Dr. Debnam offered a resolution of thanks to the different railroads who so courteously gave reduced rates to the members of the Society. Adopted.

The time having arrived for the inauguration of the new President, Drs Haigh and Hardy were requested to conduct him to the chair. Dr. Haywood, the retiring President, congratulated Dr. Wood on his accession to the highest office in the gift of the medical profession of the State.

Dr. Wood said :

Gentlemen of the Medical Society of the State of North Carolina :

I accept the honor, which you by your kind partiality have bestowed upon me, with profound gratitude. I am aware that this office is not an empty honor, a place of luxurious ease, in which during the brief term of our assembling together the insignia of

office is to be worn. I accept it with the earnest desire and determination to use my efforts during the ensuing year, to bring out the ability which I know is to be found in the profession in this State, and add its collected treasure to the increasing importance of our scientific and literary efforts.

I have studied with increasing interest the now beautiful system of our State medical organizations which you have developed by years of patient toil in spite of unfair opposition, and I am convinced that no State in the Union has laid a foundation with anything like the wisdom which has inspired you. But in saying this I am only praising the system and not the outcome of the system. It is true we have had encouraging results, as witness the large numbers of physicians who seek the license of the Board of Examiners, but we still come far short of our capabilities. It will be my endeavor to bring out the work of the Sections and the Committees which my distinguished predecessor has entrusted, I believe, into good hands. To this end I ask and expect your aid, and the gentlemen entrusted with these duties will have to be patient with me, if during the coming year, they find my demands upon their times somewhat importunate.

Allow me to suggest that it be made competent for the President to accept resignations and fill vacancies during the interval of our meeting, so that there may be no disjointed work to apologize for when we next assemble.

May we not liken these annual meetings to points of ossification in the medical body, from the Cape Fear to the French Broad, points of ossification in a healthy structure bidding fair to develop into a vigorous and well-knit structure? Then we must see that the proper nourishment is given, and this can only be done by the healthy condition of all its members. Our growth should be an unretarded physical process, but if need be that foul ulcers form upon it let us have the courage to apply the severe cautery, if repair cannot be effected by gentler means. The eyes of the State are upon us, watching how we manage our talents, and we are capable by unremitting work of attracting their admiration. On the other hand let us be warned by the unkindly stabs we have received in the house of our friends and be upon our guard.

Let me again thank you for the honor you have bestowed upon me.

Dr. Haywood, in retiring from the chair, delivered a very entertaining and admirable address, on the defects of medical education, on the fashion in medicine from the remote days of Hippocrates to our own times. The subject of his address was: "Defects of our American System of Medical Education and Progress from Ancient Empiricism to the Advanced State of Modern Science."

He was frequently interrupted by laughter and applause.

Dr. W. C. Murphy introduced the following resolution:

Resolved, That the thanks of the North Carolina State Medical Society are due and are hereby tendered to Dr. Richard B. Haywood, of Raleigh, for the able impartial and courteous manner in which he has presided over the deliberation of our Society, and for his interesting valedictory address just delivered.

Dr. Grissom said he had known Dr. Haywood all his life, and he would say in the language of the Queen of Sheba that the half had never been told of him.

Dr. M. T. Savage moved that the address be referred to the Committee on Publication.

Dr. O'Hagan moved that 500 copies be printed and distributed, and Dr. R. H. Lewis moved to amend and make it 1,000, which motion was carried.

Dr. J. D. Roberts introduced the following resolution which was carried:

Resolved, That the President of the Society be authorized to accept resignations, fill vacancies on committees, and make such appointments in the interim of our annual sessions, as in his discretion he finds necessary for the successful working of the business of the Society.

Dr. A. G. Carr moved that hereafter "no member should be elected to any position of trust or honor in the Society unless he was present at the meeting."

After some debate the motion was lost.

The Society then adjourned to meet in Concord on the second Tuesday in May, 1882.

RICHARD B. HAYWOOD, M. D., President.

L. JULIEN PICÖT, M. D., Secretary.

The following new members signed the Constitution :

NEW MEMBERS FOR 1881.

Dr. B. F. Whiteside, Hickory.	Dr. W. L. Hilliard, Asheville.
" Percy T. Norcop, Asheville.	" Cornelius Winston, Franklinton.
" S. T. Waldo, Cary.	" T. A. Crowell, Monroe.
" Wm. L. Crump, South River.	" R. L. Payne, Jr., Lexington.
" D. J. Cain, Asheville.	" Theo. F. Melsenheimer, Big Lick.
" M. D. Phillips, Dalton.	" W. C. Brownson, Asheville.
" John G. Hardy, Asheville.	" T. F. Pharr, Concord.
" J. M. Lyle, Franklin.	" H. W. Betts, Albemarle.
" J. A. Reagan, Weaverville.	" W. D. Hilliard, Asheville.
" R. S. Baynes, Bushy Fork.	" J. W. Moore, Mt. Pleasant.
" F. Broyles, Asheville.	" A. D. Pair, Eagle Rock.
" T. B. Robertson, Neuse.	" J. K. Gilkey, Marion.
" H. W. Lilly, Fayetteville.	" J. H. Faison, Faison.
" G. W. Fletcher, Shufordville.	" W. L. Reagan, Ivy.
" S. H. Lyle, Franklin.	" H. B. Weaver, Weaverville.
" J. Anderson, Calahahn.	" J. G. Craigmiles, Marshall.
" E. Crowell, Lincolnton.	" A. J. Battle, Earpsborough.
" R. J. Wilson, Swannanoa.	" J. R. Staton, Tarborough.
" M. H. Fletcher, Shufordville.	" R. S. Lackey, Amity Hill.
" Thos. M. Jordan, Hillsborough.	" John Hay Williams, Asheville.

NOTE—It is believed that this list includes all the new members although it is thought by the Committee on Publication that the names of some arriving on the 2d day of meeting escaped the Secretary.

OFFICIAL LIST OF CANDIDATES LICENSED BY THE STATE BOARD OF
MEDICAL EXAMINERS.

The Board of Medical Examiners of the State of North Carolina, met in the town of Asheville, N. C., May 30th, 1881, and remained in session four days. Forty-two applicants presented themselves for examination. Thirty-seven were found duly qualified, and were accordingly licensed to practice medicine and surgery in North Carolina, to-wit :

- Dr. D. J. Cain, Asheville.
- " Percy T. Norcop, F. R. C. S., E., Asheville.
- " H. W. Lilly, Fayetteville.
- " T. B. Robertson, Neuse, Wake County.
- " S. H. Lyle, Franklin, Macon County.
- " W. L. Crump, South River, Rowan County.
- " M. H. Fletcher, Shufordville, Henderson County.
- " T. M. Jordan, Hillsborough.
- " R. S. Baynes, Bushy Fork, Person County.
- " M. D. Phillips, Dalton, Stokes County.
- " R. I. Wilson, Swannanoa, Buncombe County.
- " S. P. Waldo, Carey, Wake County.
- " B. F. Whiteside, Hickory.
- " W. D. Hilliard, Asheville.

Dr. T. A. Crowell, Monroe.

“ J. R. Staton, Tarborough.

“ Frank Robinson, Gastonia.

“ Cornelius Winston, Franklinton.

“ R. L. Payne, Jr., Lexington.

“ C. W. Hunt, Brevard, Transylvania County.

“ J. H. Faison, Faison, Duplin County.

“ A. D. Pair, Eagle Rock, Wake County.

“ T. F. Pharr, Concord.

“ T. F. Meisenheimer, Big Lick, Stanley County.

“ H. W. Betts, Albemarle, Stanley County.

“ J. W. Moore, Mt. Pleasant, Cabarrus County.

“ J. M. McCorkle, Newton.

“ A. J. Battle, Earpsborough.

“ W. C. Brownson, Asheville.

“ J. C. McKenzie, Laurel Hill, Richmond County.

“ C. K. Gardner, Laurinburg.

“ J. L. McMillan, Dora, Robeson County.

“ H. B. Weaver, Weaversville, Buncombe County.

“ W. L. Reagan, Ivy, Madison County.

“ J. H. Williams, Asheville.

“ R. L. Lackey, Amity Hill, Iredell County.

“ J. G. Craigmiles, Marshall, Buncombe County.

The Board of Medical Examiners of the State of North Carolina, will hold its next session in Concord, Cabarrus County, beginning on Monday before the second Tuesday in May, 1882. The following is the order of examinations :

Obstetrics, &c.—Dr. P. E. Hines.

Materia Medica and Therapeutics.—Dr. G. L. Kirby.

Practice of Medicine.—Dr. T. D. Haigh.

Surgery.—Dr. Joseph Graham.

Chemistry.—Dr. Thomas F. Wood.

Anatomy.—Dr. R. H. Lewis.

Physiology.—Dr. Henry T. Bahnson.

HENRY T. BAHNSON, M. D.,

Secretary Board of Med. Examiners of North Carolina.

SALEM, N. C. June 6th, 1881.

ASHEVILLE, N. C., May 2d, 1881.

The North Carolina Board of Health adjourned on the 2d June, 1881, to meet again upon the call of the President. The next regular meeting will take place in Concord on the second Tuesday in May 1882.

M. WHITEHEAD, M. D., President.

THOMAS F. WOOD, M. D., Secretary.

OUR ADVERTISERS AT THE ASHEVILLE MEETING.

The exhibit of pharmacals and crude drugs, surgical appliances, antiseptic material, &c., was highly appreciated by the members present.

Messrs. Chas. T. White & Co's *Quinquina*, which is fast becoming a standard anti-periodic, made new acquaintances on this occasion.

The Trommer's Extract of Malt Company presented to every member present a specimen of their unrivalled malt extract. This firm, Chas. T. White & Co., devotes its entire time and capital to the manufacture of their goods, and being located in a region where the best barley is grown, succeed in leading the market in their preparation.

Messrs. Parke Davis & Co., Detroit, Michigan, are not strangers to the North Carolina profession, but their energy and reliability have gained for them an increasing patronage. Their liberal display of new remedies was very creditable.

Mr. C. Am Ende, Hoboken, N. J., had on exhibition a fine line of antiseptic material. Borated cotton, styptic cotton, gauze, tripolith and many other articles of his own manufacture. Mr. Am Ende is the pioneer in this manufacture, and makes uniformly the best goods in his line in the country.

Ahl's Adaptable Porous Splints, Philadelphia, as now manufactured by the company, are very superior, being durable, light,

and readily adaptable in an emergency. We know of nothing equal to them.

Messrs. Sharpe & Dohme, of Baltimore, whose reputation for honesty in dealing and skill in manufacture of pharml products is not excelled in this country, still maintain an advanced standing for enterprize.

Messrs. Wm. Warner & Co., Philadelphia, Pa., made a handsome show of sugar-coated pills. The prejudice with the profession against sugar-coated pills has been overcome by the skill of this one house. It is cheaper and entirely safer to rely upon the skillfully made and mathematically divided pills of this house, than to have them made by hand under your personal direction.

HENRY G. WOODFIN, M. D.

The death of this eminent physician was learned at the Asheville meeting of the Medical Society.

For two years he served on the State Board of Health, until his failing health induced him to resign. He worked faithfully in his section of the State to indoctrinate the medical profession and the people, in the necessity of sanitary organization.

He died at his home, Franklin, Macon County, in May, at an advanced age.

Competitors. TANT.

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Remember that it is not only necessary to distinctly specify the name of the article, but is also imperative that they are dispensed by your pharmacist. Many complaints from practitioners have recently reached us, to the effect that the uniformity and excellent quality which have always distinguished our goods, must have, or seem to have, undergone a change.

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Analysis of Belladonna Plasters.

BY PROF. R. OGDEN DOREMUS.

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PROF. R. OGDEN DOREMUS, M. D., L.L.D."

Analysis of Belladonna Plasters.

BY J. P. BATTERSHALL, PH.D., Analytical Chemist.

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J. P. BATTERSHALL, Ph.D. Analytical and Consulting Chemist.

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